

AN INTERACTIONIST STUDY OF DYER WARDEN

BY

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AN INTERACTIONIST STUDY OF HOME SHOPPING

BY

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A theoretical and analytical interactionist model was used to study whether the circumstances that precipitate the purchase of a laundry or refrigeration appliance also influence the shopping and search behavior of the buyer. The two critical propositions that underpin the model are that the interaction of the individual with the behavioral setting should be studied, and that subjective perceptions of the behavioral setting will critically determine behavior. The individuals in this study were primarily grouped by previous purchase experience and education. The purchase circumstances of interest were a manufacturer's move and previous product failure. These two events generate some two-thirds of the sales of the above types of appliances.

A nationwide Home Testing Institute panel survey was undertaken in late 1978, followed by a scenario experiment that observed the effect of manipulating shopping locale familiarity and purchase urgency on home-makers' shopping and search intentions.

The two purchase circumstances of interest did influence repeated behavior, often more dramatically than purchase experience and education. However, this influence frequently depended on the type of appliance and experience or education of the buyer. The use of the Information model was vindicated. Information variables such as uncertainty and search interests were also influenced by the individual differences and situational determinants.

Generally, the survey research revealed that shoppers mostly relied on past experience and knowledge to make the decision. On average about two to three hours were spent shopping, two to three stores were shopped and two to three brands were considered. The most important information sources were the salesperson, the newspaper advertisement and a friend or relative. The incidence of sales purchases and post purchase satisfaction were very high.

An unrelated information processing experiment was also undertaken as part of the dissertation. It studied the impact of encoding cues and statistical information on consumer judgments. Expertise judgments were influenced by whether the product information was presented in case or summarized form. Encoding information with detail

or perhaps the subjects did not produce the expected, hypothetical
affixes and an interfering inconsistency between the subjects' recalled
facts and judgments was observed.

CHAPTER ONE AN OVERVIEW OF THE STUDY

Theoretical Issues

Any research implicitly, if not explicitly adopts a particular theoretical perspective. In this century the study of human behavior has been dominated by three schools of thought. Behaviorism has focused on situational determinants of behavior, personality theory has focused on certain enduring individual difference determinants of behavior, and interactionism has studied the unique reactions of different people to features of the environment. This third school of thought is the only one that has emphasized the relationship between a person's interpretation of a situation, including his or her needs and goals, and overt behavior.

This dissertation attempts to describe shopping behavior using a person/situation/product interactionist framework. The person characteristics used were primarily education and previous shopping experience, the situation was the circumstance that precipitated the purchase and the product was either a major laundry appliance (a washer or dryer) or a major refrigeration appliance (refrigerator or freezer).

The limited published information about the shopping and search that precedes the purchase of major home appliances sold each year has reported considerable variability in buyer behavior. Experience and education have been found to somewhat determine the extent and nature of the search and shopping activity. Various researchers have speculated on what else may determine shopping and information search (Kassar 1977, Bettman 1978, Moore and Lehmann 1980).

A majority of the major laundry and kitchen appliance purchases are prefabricated by either a residential move or product failure (Eichman and White 1976). Could the impact of these two circumstances extend beyond the previous recognition stage and influence the shopping and purchase process? Frequentory evidence from past research suggests that they may determine aspects of shopping behavior (Gutman and MacIner 1984, Anderson 1984, Bell 1984, Brown and Sheth 1971, 1972, 1973, Elston, Fry and Harris 1974). But just how important a role these circumstances play compared with some of the individual differences or product determinants has not been established. Another interesting question is whether the influence of such purchase circumstances depends, interactively, on the education and experience of the shopper and the nature of the product. This dissertation addresses these questions. As well as applying the structured interactionist perspective it breaks new ground by studying prior uncertainty and search orientations, as intervening variables between the behavior and the lower order determinants such as experience and purchase circumstances.

fractional losses

Fierce price competition has been the dominant feature of the home appliances industry over the last three decades. It has kept price increases to a minimum and driven manufacturers out of the business. In 1975 the appliance price index stood at 83 on a 1965 base of 100. The 1975 general price index was 201 on the 1965 base of 100. The major appliance market has hobbled industrial giants such as Westinghouse Electric, Ford, American Motors and General Motors. White Consolidated has picked up the pieces to rank third behind General Electric, and

Sears' supplier, Whirlpool (Business Week, May 3, 1978). Remanufacturing and marketing cost control has been the dominant concern. Despite this cost-conscious climate, many new features and designs have been introduced, making appliances more efficient (e.g., better insulation), more reliable (e.g., better electronic circuitry) and more useful (e.g., special wash cycles, ice-makers). On the retailing side, the growth of K-Mart as a nationwide discount store has raised the question whether this type of retailing will challenge the dominance of the specialty appliance store and Sears.

Remanufacturing competitive standing has not been the only problem facing the marketing executives in the appliance industry. In the late 1970's federal agencies became very interested in appliance performance information programs, particularly energy usage information. Underlying the proposed strategies were many assumptions about how consumers use and buy such durables. The industry has challenged such schemes on their cost-effectiveness. Indeed, the origins of the major part of this dissertation can be traced to a National Science Foundation project (DPE 1076 - 00636), principal investigator William L. Wilhoit, undertaken by the Marketing Science Institute, that addressed such public policy issues:

Research Methodology

The Survey Research

Although the dissertation presents two experimental studies the major part of it is descriptive, in that it reports the findings of survey research undertaken in late 1979. While disparaged by some academics, descriptive research can play an important role in the development of scientific theory. Barker (1965) has argued that major descriptive exercises are required to establish the naturally occurring

resistance of human responses. The growth in interest in experimental studies of consumer decision making over the last decade has not been matched by a growth in field research that describes consumer behavior. For instance, the last published nationwide survey of appliance buyer search and shopping behavior was undertaken over 10 years ago. Field research undertaken over 25 years ago is still widely quoted. The cultural, technological and competitive changes that have occurred in the market place since that time have been profound. It was consequently felt that a survey of recent buyers of major home appliances would make a useful contribution to the field of consumer behavior research, even if the interactionist descriptive framework was found to be conceptually misleading.

The survey research findings are presented as three separate studies. The first compares the behavior of a standard sample of buyers with the behavior of a sample of buyers who had moved residence within the last year. The second study examines a number of hypothesized relationships using an interactionist model. The third study compares the behavior of the microwave oven buyer with the shopping behavior of the inexperienced white-ware appliance buyer.

The Scenario Experiment

In addition to the survey research a scenario experimental study was undertaken which asked the housewife to imagine she had to shop for a clothes washer.¹ Purchase urgency and locale familiarity were manipulated. The dependent measures of interest were attitudes toward different sources of information and shopping and search intentions.

¹ The decision process is used throughout the dissertation. 80% of the subjects in the experiments and 100 of the subjects in the survey research were women.

The Information Processing Experiment

An experimental study of the effect of combining data history and summary statistical information was also undertaken. This exercise had little to do with the rest of the dissertation but as an education exercise it complemented the training that the survey research and summary experiments provided.

Overview of the Dissertation Chapters

The theoretical philosophy is described in Chapter Two. Some of the past and present thought on interactionism is presented and consumer research that has adopted such a perspective is described. Hopefully, adequate justification is provided for using such a perspective in studying appliance buyers' shopping and search behavior.

Chapter Three reviews past empirical investigations of appliance shopping behavior. It is a narrowly focused summary, as it was written to complement the broader view of appliance consumption behavior presented in Dickson and Wittig (1978). A distinctive feature of past research is that it has concentrated on measuring behavior and has not sought to examine the buyers' search goals or motivations. The problems of comparability across past studies are discussed.

Despite these limitations some interesting generalizations emerged. In particular, the average amount of shopping and search, although considerable when compared to other products, has been less than that expected by researchers. This finding tells us something about the buyers' priorities but also something about researchers' values. The researchers' expectations seem to have been based on normative beliefs about how much effort should be involved in buying an appliance. Another common finding of past studies is that previous experience appears to be the most powerful individual difference determinant.

A model of shopping and information search and an associated set of hypotheses are presented in Chapter four. They reflect the interactionist perspective as well as the thoughts and findings of past research. It is emphasized that these hypotheses and their underlying model are not tested or examined. This becomes clear when the research methodology is described in Chapter five. The centerpiece of the dissertation is the findings of a nationwide panel survey of some 300 recent appliance buyers. This is actually subdivided into a standard panel of households and a special custom panel of recent movers. Exploratory research preceded the two screening surveys and the two follow-up surveys. It consisted of consultation with senior marketing research executives in the appliance industry, in-depth interviews with sales persons and customer focus group discussions.

Chapters six through to nine present the survey findings. First of all a descriptive summary of the results of the standard panel and the special recent movers panel is presented in Chapter six. Similarities and differences between the two groups are highlighted. Some of the findings confirm past researchers' general conclusions. Other findings suggest either new behavioral trends or provide thoughts about shopping behavior that have not been previously revealed.

More complex analysis is undertaken in the following chapters. Factor analysis of several sets of survey measures are described in Chapter seven. They provided meaningful composite measures of the buyers' shopping and search activity, prior uncertainty, and shopping interests that were used in later analysis. Chapter eight presents the interactionist analysis and Chapter nine presents the stepwise consumer study.

The scenario experimental study is presented in Chapters Ten through to Chapter fourteen. The subjects' unique reactions to the shopping situation are presented in Chapter eleven. Analyses of various search goals and stopping and search intentions are presented in Chapters twelve and thirteen respectively. An unusual application of multidimensional preference scaling is described in Chapter fourteen.

Chapter Fifteen summarizes the findings of the survey research and scenario experiment. It includes some strategy implications and suggested directions for future research. The final chapter presents the information processing experiment.

CHAPTER TWO
A REASON-SITUATION INTERACTIONIST VIEW OF CONSUMER BEHAVIOR

Introduction

Of the research interests of learning academics and the content of popular textbooks, is any indication of the emphasis given to topics in the teaching of consumer behavior, then it is a fair bet that most students of the subject underestimate the relevance of usage situations or purchase circumstances. Popular topics in the late 1980's were information processing, multi-attribute attitude models and psychographics. As a consequence many of today's young market researchers and brand managers know that they can only retain about seven items in their short-term memory, are able to recite a Plummer formula and happily label some 140 of male consumers as traditionalists. It is most unlikely that they will appreciate the full significance of $f(m(p,x))$ to consumer psychology and marketing.

There are several reasons why more attention should be paid to what Interactionism has to say about the influence of usage situation on consumer behavior. First and foremost, usage situation is important. After all, products are not designed for people, per se, but designed for people to use in various usage situations. The distinction is not trivial. Dinner jackets are worn to dinners and restaurants, umbrellas are used in the rain. Pickups are designed for rough country, compact cars are designed for stop-start commuting and Cadillacs are designed to cruise on highways. Fine china is brought out for best guests and candle-ware

is used at breakfast, lunch, supper and every other time. Popcorn is sold at football matches and cigarettes are sold at airports. There are breakfast foods, snack foods and heritage for Thanksgiving. Products and services are purchased to meet the needs of consumers in particular situations. Theories that give us a better appreciation of how situations influence buyer or shopper behavior will lead to better designed products, marketing strategy and public policy.

Greater consideration of theories of situations influence will also encourage market researchers to be a little more circumspect in generalizing their findings. If consumer judgments and behavior are affected by the usage or purchase context then research and its interpretation should be situation specific. Let us imagine a brand manager studying market share ratings. Suppose he finds his brand is preferred in one usage situation and his major competitor's brand is preferred in another usage situation. He is likely to talk about brand loyal consumers and regard the brands as head-to-head substitutes. He should be talking about brand loyal situations and seeing the brands perhaps as complements. He might be even more misled by information processing research, attitude scaling, conjoint analysis or perceptual mapping that is not situation specific. These research approaches would support marketing strategies that anticipate the demands of a hypothetical competitor, or average, usage situation that does not exist. The strategy would very likely run the risk of falling between two stools.

Finally, more consideration should be paid to what interactionism has to say about the influence of situation on behavior because it positions itself as a viable alternative to the personality theories that ignore situation, and behaviorism that only studies the influence of the physical situation. The justification of the interactionist

perspective reveals the weaknesses of the other two schools of thought.

The following discussion has three objectives. First of all it attempts to describe the essential elements of interactionism and ecological psychology. The recent proponents of these schools of thought have not made it easy as they have not linked their work explicitly to what appears to be their theoretical heritage. As a result the initial brief review of the thoughts of the early behaviorists, Gestalt psychologists and the great field theorist, Lewin, is not just a courtesy exercise. It reveals that, conceptually speaking, not a lot of the recent thought is very new. Turner's neo-behaviorist, ecological psychology is a generalization of the behaviorist's paradigm and shares similar philosophical strengths and weaknesses. The interactionists have rediscovered the importance of the interaction between the person and the physical setting but have not explicitly recognized it as an empirical validation of field theory.

The second intention is to describe and position some of the recent consumer research that has taken stage motivation into consideration. Most if not all of this work appears to implicitly, if not explicitly, accept a field theory perspective. The research falls into two types. The first type of study has examined the conservative effects of situation, individual differences and their interaction on behavior. The second type of study has examined subjects' reactions to the situation (i.e., needs, goals, etc.), their situation specific product judgments and in some cases related these to behavior.

The third and most important objective was to establish the general theoretical legitimacy for studying the impact of situation on

appliance buyers shopping and information search). If such a perspective is theoretically respectable and past research into the impact of situation on consumer behavior has provided new insights, then very reasonable grounds have been provided for seeking situational determinants of appliance shopping behavior. The grounds for studying specific situation-shopping relationships are presented in a later chapter.

Early Perspectives

The known origins of person-situation interactionism can be traced to the hellenic philosophers. Aristotle offered a theory that the behavior/ effects of environmental sensation are moderated by thought (Stoks 1913). His student, Plato, laid a foundation for studying the unique effect of the environment on human behavior, when he pointed out in *Theatetus* that what is perceived is the result of the interaction between the individual/ man and the physical situation:

What we say 'is' this or that color will be neither the eye which encounters the action, nor the action which is encountered, but something which has arisen between the two and is peculiar to each special condition. (underlining added, Barker, 1973, p. 281)

Each individual has his or her own idiosyncratic perception and interpretation of the physical environment. Color, beauty and apparently everything else, is in the eye of the beholder. These thoughts re-emerged in the 1920s as the "interactional interactionist" philosophy.

No biological fact may be considered as anything but the actual interaction of the organism and the environment. (Barker, 1928, p. 361)

But something was lost in the translation, as Barker and his colleagues emphasized that only the physical features of the environment such as temperature and distance should be studied. Subjective

perceptions and psychological reactions were not of the model. During the end of his long career Kantor still dogmatically believed in a viewpoint that "completely excludes extraneous and unobservable mental processes," (Kantor, 1968, p. 370). This old behaviorist approach to studying human behavior was first advocated by Watson (1918) as an alternative to the psychology in vogue at the turn of the century, the introspective or self analysis of one's own mental states. Since that era behaviorism has been the major situation-influence school of thought. Philosophically it has steadfastly rejected studying anything but objectively measurable situational stimuli. Its critics argue has reaffirmed this by keeping aside the study of mediating variables which in his opinion do not explain behavior and in fact get in the way of proper analysis (Skinner 1962). The mediating variables he contends are concerns of how people perceive the situational stimuli, how people feel about the situation and what needs they seek to satisfy.

Even in its early days this behaviorist perspective did not go unchallenged. Tolman and Bruner's (1925) wrote an essay in their view of psychology that emphasized the importance of describing the relation between the person and situation's "actual texture." They talked about the probabilistic inferences that people make from situation stimuli. Such inferences are based on experiential hypotheses. Although the paper is full of rather dated, quaint jargon and in places is theoretically obscure, it foretold the contributions that these two psychologists were to make to the study of people's subjective perceptions of their environments. Bruner's (1962) developed the lens-model which related objective situational cues to a person's perception and use of those cues

in making judgments. In this work he defended the validity of verbal reports of the environment. To him such measures did not, by definition, suffer from all the inadequacies of introspection as adlored by behaviorists. Bruner also made two important points which underlie modern research perspectives. He asserted that the best we can do is to statistically measure consistent variations between situational elements and behavior. The testing of behavioral "laws", equivalent to, say, physics's thermodynamic laws, is out of the question. In addition he strongly argued that the situations that are studied by researchers must represent the complexity and random reaction of the natural environment and that the proper sampling of situations in research may be more important than the proper sampling of subjects (Bruner 1961).

Initially Tolman was a confirmed S-R behaviorist but he became disenchanted with describing both situation (S) and behavior (R) only in molecular and objectively measurable terms. Spurred with the "molecule-twisting" level of analyses of his contemporary behaviorists he studied the more general exploratory behavior of rats. This led to a belief that the crucial determinant of even a rat's behavior was the rat's psychological interpretation of its environment. Tolman's animals undertook non-reinforced, exploratory learning of environmental features, attempted to physically eliminate aversive environmental stimuli, tested cause and effect hypotheses and showed a remarkable spatial orientation. The relationship between external objective stimuli and the rat's behavior was mediated by what can only be called the rat's conscious interpretation of the environment. The evidence indicated to Tolman that the animals developed a field map of their environment, in their heads, containing cause-and-effect logic paths (Tolman 1948).

There were many other psychologists who in the 1930s viewed the 3-4 aspect of situation's influence on behavior as a little too simplistic. The gestalt psychologist, Wertheim (1935), used a horse-back rider story to illustrate the importance of the subjective or perceived environment. It is worth paraphrasing:

Late at night, high in the Swiss Alps, a lone horse-back rider hurried through a blizzard which is becoming more severe as every moment the horse is tired. The rider is very wet and cold. He knows that the storm may well continue to rage through the night making the roads impassable. Though a stranger to these parts, the rider has often heard stories of persons who were stranded and frozen to death in such blizzards. He is dreadfully concerned. Suddenly, far ahead in the distance he sees a faint speck of light—an inn? As he approaches the speck of light, he sees stretching before him a vast snow-covered plain and the safety of the inn across the plain. He urges his horse forward and gallops through the blizzard to safety. Arriving tired but very relieved he is met by an agitated landowner who explains that what appeared as a plain was in fact a large lake covered with a thin sheet of ice. The rider collapses in shock at the terrible risk he took in taking such a perilous and foolishness ride!

The pioneering personality theorist Murray (1938) also believed that the proper unit of study was the interaction of the person with his or her situation rather than the situation or the person. He described the person in terms of his or her needs and the environment in terms of its need satisfying and need frustrating characteristics. This enabled him to link the situation and person in terms of the same higher order dimensions and to study the person-situation interaction in particular the harmony between personal needs and a situation's need

satisfying characteristics. Murray, however, emphasized the need satisfying rather than need creating characteristics of environments.

Lewin's field theory is still probably the most comprehensive theory of the influence of the experienced or perceived situation on behavior (Gustaf 1981, Lewin 1938, Kasserjian 1983). He believed that the situation must be represented as "it is real" or perceived by the individual. The physical environment may be the same for the child and adult but the totality of perceived facts - the psychological situation - is likely to be crucially different. The corollary is that behavior that results from such perceptions, is a function of the interaction between the person and his physical situation. This was summed up in Lewin's famous equation, $B=f(P,A)$. He used schematic maps to represent psychological and physical states of nature and the pathways to or away from such end states. These maps represented the potential field of behavior possibilities for the person - hence the name field theory. The choice of a pathway to a desired end state depends on the individual's idiosyncratic perceptions of the end state's attractiveness, the costs or effort involved in negotiating alternative paths to reach the desired end state and the likelihood the path will indeed lead to the desired state. The attractive or repulsive forces that shape the purposive, goal directed movement of a person along a certain path are the result of the psychological environment (Kasserjian 1982). Similarly judgments about whether the use of a particular product will achieve the desired result are a property of the psychological environment.

Lewin and the gestalt school saw that the concept of the person-situation interaction and the influence of the situation as uniquely perceived by the individual had to be one and the same thing. This connection was disclosed by the early behaviorists such as Kantor. It was, in their view, acceptable and proper to observe and record people's

different behavioral reactions to the same physical stimuli, but it was most improper to measure people's different mental or psychological reactions. Not only were they not relevant but such an exercise smacked of introspectionism.

The behaviorists' dilemma was that if they objected to measuring the subjectively perceived situation only on methodological grounds then this suggested that they were really field theorists at heart if not in practice. On the other hand if they objected on theoretical grounds they were required to find a more parsimonious explanation for why people should behave differently in the same situation. This they have not done.

Lewin's conceptualization has been criticized as being too interested in intervening variables and constructs rather than overt behavior (Shaw and Costanzo 1980). The concepts have also sometimes been considered too broad and ill-defined. Part of the criticism has arisen from difficulties in operationalizing and testing aspects of field theory but as a metatheoretical framework for studying social behavior it has yet to be surpassed.

Modern Ecological Psychology

Contemporary interest in applied situational psychology was revived by events of the 1960s. The increase in crimes of violence and the socio-political urban riots forced city planners and architects to confront the nullification that physical surroundings have on patterns of behavior. At the same time the stringency of the environmental movement forced industry and government to seek an ecological accommodation between pollution and people. The concept of the controversial environmental impact study was born. Underlying such a

document are implicit or non-explicit models of how man does and should relate to his ecology. Designers espouse found such theoretical frameworks in rather short compass, which led to the rediscovery by psychologists of the large scale physical environment (Stallard 1976) and with it something of a neo-behaviorist revival.

Throughout the 1950s and 1960s the leading ecological psychologist was Barker. He was almost aloof from the main theoretical and research streams in psychology because of his unexpressed interest in naturalistic settings, complex behavior descriptions, and his rejection of the experimental manipulation paradigm. He borrowed the term ecological from Bronfenbrenn who used it to describe the actual physical situation. But Barker did not adopt the rest of the term-model. He was interested in outer behavior rather than perceptions; specifically, the impact of a richly described ecological environment on complex behavior. This focus had evolved from an initial study of the 'stream of behavior' of children as the unit of analysis. It soon, however, became clear that behavior streams could be more readily organized and generalized if captured as the situation or setting rather than the individual (Barker and Wright 1961).

Although a student of Lewin, he criticized his mentor for developing a theory that he claimed could not be tested because it relied on unmeasurable subjective perceptions of the physical situation. The theory underlying Barker's ecological psychology, although described as minimal (Mittan 1976), appears to be a generalization of the behaviorist's S-R relationship. Ecological psychology, like behaviorism, is only interested in measuring the physical situation and overt behavior. Barker has provided more substantial evidence than his ecological psychology is really neo-behaviorism by expressing a desire to see the situation

of the more S-R perception paradigm to macro-psychology (Barbar 1977). Based on his research methodology, S stands for the behavior setting and R represents complex human behavior such as children's play. Unlike traditional behaviorism, ecological psychology views the connection between S and R as probabilistic rather than 'fixed' and also regards it as bi-directional. S determines R which then changes S.

Barbar (1981) has been perplexed by psychology's lack of interest in studying the ecological environment. The systematic organization, boundedness and sequences of nature have been substantially studied from different perspectives and with different objectives by chemists, physicists, astronomers and biologists. While claiming to not underestimate the taxonomic problem, Barbar believes such an ordered foundation can also be established for studying man-environment relations. His major contribution has been the conceptually and empirically amorphous 'behavior-setting' which seems to boil down to a gestaltistic percepture description of the physical setting (presumably real-life and definitely not 'laboratorialist'). The term behavior-setting was coined to describe an environment (hospital ward, lecture theatre, church wedding, school playground) which has a precise geographical and temporal focus and within which there exists regularly its behavior patterns. His observational research has led to very interesting insights into the influence of elements of the physical situation on behavior but he has not been able to evolve a generally accepted ecological taxonomy to use in studying man-environment relations. From an historical perspective this is not surprising. The best the early behaviorists could do was to make a systematic study of stimuli in the very limited domain of psychophysics. They did not come up with a general physical situation

taxonomy even though they assumed that all behavioral variance was attributable to variations in stimuli. Fredericksen (1972) has criticized them for such little progress, but their modern successors are hardly in a position to make such accusations as they themselves are a long way from providing a usable framework.

Mohrll and Rube (1974) attempted to abstract dimensional variables from what they called the "environmental manifold" which could then be functionally related to relevant behavior. To this end they have also emphasized that the environment should be conceived of in objective terms and not in phenomenological or "response-inferred codes". The authors made little progress in this direction and in conclusion seemed to admit defeat by implying that in studying human adaptation, the individual's frame of reference and prior experience must be understood - a suspiciously phenomenological venture.

A number of other notable attempts have been made to lay out general frameworks for classifying the behavioral environment. Sells (1963) generated over 200 variables ranging through gravity to sexuality and weather to language... It also included person characteristics such as age, sex and race! The article did not address what one does with such a list of all encompassing attributes. Ross (1973) discussed six possible conceptualizations ranging from ecological factors such as architecture through to culture and "incentive potential". He properly concluded that the environment should be described using both objective observations and participant's subjective reactions.

Their search for a schema to describe the influence of the physical setting and their strong orientation to the S-R paradigm suggest that Barker and other ecological psychologists are neo-behaviorists rather

than interactionists. Yet even Barker (1983) has admitted that the person's interpretation of his or her situation (life-space) is the means by which situation influences behavior. He uses field theory or Tolman's S-O-R to explain the influence process but his methodology and philosophy of science only allow an S-R framework. The ecological psychologists, despite their macro perspective, are confronted with the early behaviorist's dilemma. They have also added a complication of their own. The claimed emphasis of the ecological psychologist is on the integrated impact of the milieu on an integrated stream of behavior. In both the stimulus and response sides of the paradigm the whole is understood to be more than the sum of the parts. Why then have they made attempts to dissectionize and taxonomically decompose an integrated whole (as its naturalistic setting or behavior stream) into its molecular component parts, when by definition it is irreducible?

Modern Interactionism

The modern interactionist movement challenges both personality theory and the behaviorist or ecological perspective. It argues that it is impossible to separate the person from the situation or vice versa. In an extensive critique, Meeus (1973) pointed out that historically a resurgence of situationism (his name for modern behaviorism) was necessary to counteract the recent dominance of trait or personality theory in social psychology but in his opinion it has gone too far.

Meeus' first criticism was that situationism's casual S-R point of view had appropriated the experimental method and the causal-logic insight it provides. The experimental paradigm is sensitive to variations in situation treatments but not as sensitive to stable organismic

factors. The reverse is true for the correlational model (Freedrich 1987). Further, it is an interesting question in its own whether situation based experimental designs give the falsification of the situational hypotheses a fair chance. A weak experimental effect often results in more "environmental tinkering" rather than the acceptance of null or negative results that imply stability of behavior across situations.

When experimental findings do establish an input-output causal relation between environment and behavior this is not sufficient for Bower. His analogy is the inadequacy of a gravitation theory that consists of the single proposition, "letting go of apples causes them to fall". Establishing a causal connection does not explain the causal connection and in Bower's opinion too often the situationist (i.e. ecological or behaviorist) perspective has been content with just establishing relationships. He has identified behaviorists and the behaviorist dilemma. Explaining the full effect of the wider behavior level requires the introduction of experience, thought, judgments and other "mentalistic" constructs as mediators of the external "causes". What is perceived and known depends as much upon the situation inside the learner as upon the world outside him (Bower 1973, p. 327). The behaviorists have stated that behavior cannot be accounted for by staying within the system (Skinner 1964) but it cannot be explained by staying outside the system. To repeat, the dilemma for the behaviorists is that if they accept that mental constructs play a mediating role they are required to accept the feasibility of a person-situation interactionist causal model of not only perception but all purposive behavior. Personality or trait theorists are confronted with a similar dilemma. acceptance of mental constructs requires acknowledgment of the perceived situation.

The empirical support for the interactionist perspective has been largely based on the analysis of variance of behavior (or behavior interaction). The percentages of variance explained by situation, person and the interaction are compared. Earlier methodological tools, correlation and factor analysis, inadequately addressed the interactionist theory. A common purpose of most of the analysis of variance studies has been the examination of subjects' reactions to frustrating or anxiety inducing situations (Doll and Tuck 1960, Doll et al. 1963, Ross 1963). Consequently this research cannot claim to represent a wide range of behaviors and situations. Generally speaking, the person-situation ($P \times S$) interaction here explained a reasonably substantial amount of behavior variance but it did not clearly delineate the main effects of person (P) and situation (S). An interestingly sensible finding confirmed by Ross (1963) and previously noted by Bush et al. (1966, 1968) is that the individual difference or trait model (P) explains more behavior variance when mental patients are used as subjects. When better adjusted persons are used as subjects the situation and interactionist effects (S , $P \times S$) are larger. They are more sensitive to their environment and their behavior reflects this awareness.

Mischel (1977) has pointed out that it is rather fruitless for trait theorists, situationists and interactionists to attach great significance to P , S and $P \times S$'s share of explained variance. Arbitrary selection of the set of subjects, settings and dependent measures can produce any desired pattern of explained variance. In similar vein Ekman (1974) and Mischel (1975) have pointed out that the analysis of variance framework addresses, with dubious generalizability, the issue

of "how much" rather than "how". It is Ekman's opinion that the "how" question, or at least the psychological perception of situations, can be examined by the use of semantic differential measures or multi-dimensional perceptual scaling. The forcing of these perceptions onto a general taxonomic framework has been claimed to be as fruitless an endeavor as the pursuit of the "final or ultimate taxonomy of traits". (Mischel 1977, p.280) By way of confirmation, Rotter (1976) in an extensive review of 420 articles related to environmental psychology could not report very much progress in this direction. One of his major conclusions was that we need to identify an individual's important goals and plans, the salience of situations ("extent to which they are associated with psychologically important goals") (p. 278) and situational congruence ("extent to which they [situations] permit behavioral opportunities for realizing salient goals and plans" (p. 278)). This sounds very much like the reinterimation of Lewin's situation potency, biological needs and incentive potential. It is also reminiscent of Merton's contingency theory. Ben and Allan (1976) have noted a similar historical drawback when making the case for examining the goals, rules and plans of individuals in their interaction with the environment:

Such classification will have to be in terms of the individual's own phenomenology, not the investigators'. A suggestion that is bound to increase further the odds on any psychologist old enough to remember Kurt Lewin. (p.218)

From an historical perspective, the general field of situational psychology appears to have gone through two cycles. The first started with behavioristic behaviorism and ended in the early 1980's, perhaps not coincidentally, at the time of the premature death of Lewin. The second cycle started with Skinner's emergence as a dominant figure but

has brought us around again to an interactionist philosophy closer to that of 50 years ago. Interestingly its resurgence seems to have occurred quite independently of its historical origins (Grossman 1974) which are Lewin's field theory, Tolman's configural maps, Murray's contiguity and Brunswik's distal-proximal perceptual theory. Some of the concepts have new names. Lewin's life-space or Tolman's S in the I-S-R are variously known as the psychological situation, phenomenological field, phenomenal field and personal world. The only really major difference appears to be in the observational methodology and statistical analyses that now can be applied to the study of situational influence. The contribution of ecological psychology appears to be mainly methodological. It has raised serious, legitimate concerns about the validity and reliability of research that measures inferencing constructs. Theoretically it has been stymied by its inability to explain idiosyncratic behavior and decision making processes.

Consumption Situation Research

A European researcher was the first to introduce the situation scenario experiment into the consumer behavior literature (Sundell 1984). Students stated how willing they would be to drink different generic products (e.g., coffee, squash, beer) in each of a set of specified consumption situations. Although situation (i), as a main effect, was of no consequence (surprising, considering the different general thirst implications of these settings, e.g., 'when really thirsty' and 'when alone'), the situation-object (i x O) interaction accounted for 40% of the variance in willingness. The individuals showed a substantial common preference for particular generic drinks in particular settings. If Sundell's sweeping assumption is accepted that the residual unexplained variance represents idiosyncratic preferences for particular drinks in

particular settings (the $P \times S \times O$ interaction). When situation influence, through all of the main and interaction effects, accounted for around 50% of the variation in willingness. The equivalent percentage for persons or individual differences was 40% (see Table 2.1 for the respective percentages). Interestingly, Latané assumed that the situation variance could not be explained by need or drive variations across the consumption settings, as in his view only a single drive existed - thirst. While this drive dominates in the situation "when really thirsty" it is arguable that a drink's instrumental purpose is a relaxant or digestant rather than thirst quencher when "sinking after dinner", or "feeling sleepy in the afternoon". Similarly a drink may be more of a psychological prop "when alone", a technical stimulant "before sitting down at the table", and "with a delicious piece of meat", and a general stimulant when "reading the paper in the morning". It is hard to understand why Latané did not seek to isolate the unique needs, values and goals of each consumption setting. Perhaps it is another example of the neo-behaviourist tendency to regard needs, values and goals as falling solely within the domain of individual differences and not within the domain of situation differences or person-situation differences.

Despite its explanatory limitations, Latané's work was quite innovative. However, it did not create much interest and five years passed before replications and extensions were undertaken. The initiator of much of this was Ickk (1976, 1979a) whose research and conceptualisation have become well known in consumer behaviour research. Five of his studies are summarised in Table 2.1. He found a lack of consistent demonstration of any single component. The teleonomic

Table 2.3

Interaction/fit statistics of consumer behaviour

Study	Sample/1 (Year)	Self (1976)	Self (1974)	Self (1974)	Self (1974)	Statistics and effects (1976)
Subject	10 adults	18 areas (year)	11 areas	18 (1974)	11 (1974)	2 brands, 2 types of paper, 2 brands of batteries
Persons	26 students	100 adults	100 adults	58 housewives	100 students	24 students
Situations	7 consumption settings	10 consumption settings	9 consumption settings	18 consumption settings	9 consumption settings	4 usage situations
Relevant measure (d.f.)	will represent to drink 2L point scale	choice likelihood dependent scale 8-point scale	choice likelihood dependent scale 8-point scale	choice likelihood dependent scale 8-point scale	choice likelihood dependent scale 8-point scale	perceived likelihood 100-point scale
3 of d.f. explained (p)						
Objects (p)	14.9	9.7	15.0	13.4	16.4	9.9
Persons (p)	0.5	9.7	4.6	9.1	9.9	-
Situations (p)	0.2	0.4	5.7	2.7	9.3	-
$P \times 3$	11.6	32.4	9.7	20.1	33.7	25.5
3×3	29.8	19.7	29.7	19.3	7.0	23.1
$P \times 3 \times 3$	-	3.4	-	-	-	23.8
Residual (unexplained)	23.5	35.6	36.4	38.7	35.4	3.1*
	100	100	100	100	100	100

* all other reports including P , 3 , and $P \times 3$

preference for objects ($F = 0$, indicating person segmentation potential) and the preference for certain objects in particular situations ($F = 0$, indicating situation segmentation potential) both explained a respectable percentage of the response variance in all of the studies. The exact amount, however, varied considerably across the studies. A substantial amount of the response variability was not explained.

The most recent situation scenario studies summarized in Table 2.1 (Shawson and Ptacek 1990) involved repeated measurements. A major feature of their work is the remarkable success the researchers had in explaining response variation. Contrary to Iain's finding the triple-interaction terms ($F = 3 \times 0$) are substantial. Situation, through its main and interaction effects explained 80% and 90% of the variation in behavior intention toward brand and types of paper towel's and batteries. Decorative towels were preferred in dinner and bedtime settings, durable towels in more functional settings. Longer lasting more durable dry-cell batteries were preferred in certain usage situations, cheaper, shorter lifespan batteries in other usage situations.

Generally, consumer researchers have not been satisfied with just measuring how much variation can be explained by various effects... They have also attempted to explore the reasons for consumption situations influence. Iain undertook a three role factor analysis in his snack and toilet studies. The underlying identifiable latent factors for the snack situations were social/entertaining elements in the situation, need for sustenance, and preferred consumption. For the snack consumption situations the factors seemed to be whether the meal was liposceptic, in a home setting, in the work-and and casual. Although not explicitly stated, these latent structures seem to reflect the particular

demands of the different situations and the resulting needs and objectives of the persons in the situations.

A recent study has proposed a method similar to three mode factor analysis which identifies latent (influential) characteristics of the usage-consumption settings, reconstructs settings based on these functions and validates their latent structure (Jirassakuldech, Stocker and Day 1979). A group of students judged the appropriateness of 44 brand fresheners (products and how combined) in eighteen different various usage situations. Correlations were generated between pairs of situations across the 44 alternatives' rated appropriateness in each setting. These correlations indicated the similarity of ratings of the alternatives among situations. A principal components analysis of the correlation matrix grouped situations based on their factor loadings and enabled the clustering of the 44 products based on the factor scores. The three interpretable principal components were: social versus personal concerns, usage versus home usage (privacy of administration of remedy) and some threat situations. The first two components explained 87% of the variance and were interpreted as reflecting social versus personal needs and the usage convenience of the setting. The two factor situation taxonomy that was developed to explain product appropriateness, again seems to reflect desired outcome states, usage goals and objectives.

Rather than examining the unique latent structure underlying a particular product's usage situations, Lohr and Rattner (1979) rather adventurously applied a very general emotional-response situation taxonomy to a consumption scenario experimental study. Each subject rated specific situations on their pleasure, arousal and dominance potential using an instrument developed by Mehrabian and Russell (1967)

The use of the three prescribed dimensions, as predictors, increased the explanatory power of situation but the explained variance was still low. The application of a general situation trait model was assessed to be about as successful as past applications of general personality trait models in consumer research.

Pluck and Shanteau (1977) have examined the impact of situation on judgment processes. Nineteen of 24 consumers were very sensitive to the usage situations. The situation scenarios produced shifts in the subjects' importance weights that were fitted to product dimensions and, unexpectedly, also shifts in subjects' product attribute judgments. This is evidence of not only situation's influence on needs, values and attribute importance, but in addition the influence of situation on judgments and perceptions of items that attempt to satisfy situation-specific needs.

Bearden and Messinger (1977) have proposed an interesting situational influence model of consumer behavior. It is not an interactionist perspective as it assumes that the effect of situation is additive. An examination of their model reveals that situation does not influence motives, choice criteria or attitudes... Just what are the effects of motives to achieve. The researchers view situation and events as primarily affecting behavior intentions and behavior. They translate this dubious proposition into an intriguing but conceptually flawed situational-attitudinal model, which essentially takes the following form:

$$B_{ij} = a_1 \overset{\text{attributes}}{I_i + A_i} + a_2 \overset{\text{situations}}{S_i + BC_i} + \overset{\text{attributes}}{I_{ij}} + \overset{\text{situations}}{S_{ij}} + P_{ij} + \dots \quad (1)$$

behavior intention toward the brand depends on the familiar attitude and normative components of the extended Fishbein model. The addition of a third component introduces their situational influence. It is a

multiplication of p_s (the likelihood of the situation occurring), $p_{p/s}$ (the likelihood of the generic product being purchased in that situation), and $p_{b/p}$ (the likelihood of the brand being purchased in that situation) summed over all of the usage situations.

The problem investigated was the direct relation between behavior intention and brand usage likelihood. If behavior intention is not directly related to purchase likelihood then the above model is purposeless. If behavior intention is directly related to purchase likelihood then this implies that

$$B_{b/s} = k p_{p/s} \cdot p_{b/p} \quad \text{--- (2)}$$

where k represents a linear scale transformation constant, and as

$$B_{b/s} = \frac{\text{variations}}{B_s} \cdot B_{b/s} \quad \text{--- (3)}$$

it follows from substituting (2) in (3) that

$$B_{b/s} = \frac{\text{variations}}{B_s} \cdot p_{p/s} \cdot p_{b/p} \quad \text{--- (4)}$$

If both (1) and (4) hold then by substitution the Borden and MacInnis situation model reduces to a general extended Fishbein model with weights of $(a_1/(s-1))$ and $(a_2/(s-1))$ and to situation component. The same authors appear to conclude their article as another contradictory note. They recommend an investigation of the person by situation interaction effect on behavior, having discussed the necessary person and situation specific measures of attitude and its components as unmanageable at the beginning of their article and not included such effects in their model.

Miller and Gatter (1976) managed the measurement problem and provided convincing evidence of the impact of situational context on brand perception and choice. They were interested in examining the impact of different consumption settings on the goodness of fit of a multi-attribute attitude model to actual reported behavior. Eight fast-food restaurants (e.g., Arby's and McDonald's), four situations (e.g., week-day lunch, evening meal with family who are not rushed for time), and seven attributes (e.g., speed of service, variety, price) were used. In particular, Miller and Gatter sought to examine the changes caused by situation, in the rated importance of fast-food restaurant features and the user's perceptions of the restaurants. Their attitude model's elements were situation-specific. They found that consumers' perceptions of six of the eight restaurants varied across situations, the perceived importance of four of the seven attributes varied, and the perceived desirability of particular restaurants varied across the situations. The use of situation-specific measures of attribute importance and the use of situation-specific measures of the perceived desirability of each of the restaurants increased the predictive power of the multi-attribute model significantly for three of the four consumption situations.

Anticipated usage situation has also been shown to influence choice of automobile brand and the importance of various attributes, such as fuel economy, riding comfort and trunk space (Berkowitz, Sieber and Telarock, 1977). The influence of particular situations on general attitudes appeared to depend on the anticipated frequency of occurrence of the automobile usage situation and its importance relative to other anticipated usage situations.

An Emerging Interactionist Perspective

In his early work, Berk took a philosophical stance very similar to earlier behaviorists and ecologists and he has consequently confronted the same problems. He asserted that measurement validity and theoretical inclusiveness could only be achieved by describing the physical situation (Berk 1974). Yet when he came to offer his own general situation taxonomy, it included task definition (which embodies the goals, objectives, purposes and plans of an individual) and antecedent states (physical, emotional and cognitive) that the individual brings to the situation. He did not explain how to measure task-definition objectively, how to measure antecedent states objectively, how to distinguish antecedent states from enduring individual differences and finally how to distinguish between a previous antecedent situation and the current situation. Like Barker, Berk also has admitted the subject's perceptions and interpretations of his environment are necessary to understand the influence process (1976c). Of late he appears to have abandoned the concept of a general physical situation taxonomy and now supports the use of free-response data and the relating of product or brand preference to "perceived" situational characteristics (Berk 1978). Other consumer behavior researchers had earlier acknowledged the importance of the psychological environment. Hansen (1932) stated that internal processes must be studied to understand how a situation influences ultimate behavior. Levin and Barker (1935, 1936) have emphasized the importance of studying the psychological environment. They suggested the application of a two-model approach where the objective (physical) and psychological (perceived) situations are studied and together related to consumer behavior. In particular, they called

for the study of the similarity and differences in consumers' situation perceptions. The $S \times P$ and $S \times P \times O$ effects in Table 2.1 indicate an idiosyncratic behavioral reaction of persons to the different situations. Presumably this indicates a dissimilarity of these consumers' situation perceptions and consequently addresses the suggested topic.

Recent research has provided clear evidence of the impact of situation on product perceptions, attribute importance and behavior, reported or intended. In Levinian terms, the potency of various paths (to products or services) have been shown to vary in different physical situations. It appears that, that an increasing number of consumer researchers are putting the interactionist perspective into practice. An interesting feature of this emerging school of thought is that, like their contemporary interactionist or environmental psychologists, the consumer researchers do not appear to be aware of, or at least interested in, the link between the interactionist's analysis of variance studies and Levin's $S \times P$ ($P \times S$) field theory. Both and others have not conceptually tied the $S \times O$, $P \times S$ and $P \times S \times O$ effects to Levin's frequency of the idiosyncratic, psychological situation. On the other hand, Rosenthal's (1972) field theoretic interpretation of consumer behavior did not quote Sandell's work as a singularly outstanding experimental illustration of the interaction between person and situation and the resulting influence of the perceived usage situation on consumer choice behavior. Recognition of the link between the statistical interaction terms and the life space concept leads inevitably to an acceptance of the importance of measuring consumer's idiosyncratic interpretations of the usage situation and the products or services (instrumental objects or paths) in the situation.

Conclusion

Over the last decade a small number of consumer researchers have examined consumer attitudes and behavior in different usage situations. Compared with other topics the attention the field has paid to this subject has bordered on indifference. Situation researchers do, however, have a rich and vigorous psychology literature to draw on for the theoretical foundations of their perspective. Such an historical appreciation should lead to the ready acceptance that both objective and subjective dimensions of situation must be studied, and that an interactionist rather than a strictly situation or individual difference model is most reasonable.

A general taxonomy of consumption situations is likely to remain as elusive as a general taxonomy of consumers. The very elusiveness of this "golden fleece" will probably continue to lure bright minds, but there is some evidence that recent research is more productively turning its attention towards a better understanding of why and how situation influences a particular product's usage. The predominant interest is no longer in counting percentage points of explained variance; percentage points that can be too easily manufactured by judicious experimental design.

The development of reliable research methodology to study situational influence is a daunting task. The combination of situational factor analysis and the diagnosis of the impact of situation on motivations, attitudes and perceptions offers the most promise. This is likely to be best performed by field surveys of the behavior and attitudes of representative samples of people in representative samples of usage

situations, followed by the experimental testing of the impact of constructed usage situations. The first step provides a product-specific taxonomy, the second step provides the opportunity for theory testing. Future diagnostic research might involve situation-specific perceptual scaling or conjoint analysis of sets of alternative products as well as more conventional situation-specific, expectancy-value modeling. Last and not least, consumer behaviorists could well follow Barker's example and observe usage behavior. Against his certain strong objections, this observation could also be linked with verbal protocols indicating the subject's interpretations of the situation and reasons for behavior. While attribute importance and the instrumentality of alternative products should be studied in varying usage situations, a more basic requirement is to clearly appreciate the outcomes that are desired from interaction of the person with the situation. The study of the needs and desired objectives created by the psychological situation should therefore take priority as it is these variables that create the "instrumentality" of products and the resulting usage behavior tendencies.

Finally, almost all of the research and discussion in the consumer literature has focused on the impact of situation on usage or consumption. An exception is Hansen (1972) who distinguished between purchase, consumption and communication situations and focused on the last. In principle, there appears to be no reason why the interactionist perspective cannot be applied to purchase or buying behavior (i.e., information search and shopping). As indicated by Barker (1975) and accepted by folk (1976), the boundaries of such search or shopping settings will be usually broader than the boundaries of usage or

consumption settings. Obviously the same framework that is applied to the study of the use of batteries, paper towels, sheet pails, restaurants or automobiles should be able to be applied to the study of the use of information sources and shopping behavior. This is the assumption that underlies the following research.

CHAPTER THREE APPLIED SHOPPING AND INFORMATION SEARCH

Introduction

In one of the very first consumer behavior articles ever written Copeland (1965) introduced the concepts of the convenience good, shopping good, and specialty good. It was a simple framework, written in Spanish's language, for categorizing consumer search and shopping effort. Over fifty years later the approach still has relevance for retail and promotional strategy. According to Copeland the convenience good (e.g., confectionery, toothpaste, magazines) is purchased frequently and quickly with the aim of cost and effort at the closest store. The consumer may have a brand of a convenience good in mind and ask for it but if it is out of stock or the retailer recommends another brand the consumer will purchase a substitute rather than shopping elsewhere. A shopping good (e.g., women's clothes, chinaware) is a good where the consumer compares shops across brands and at two or more stores. The purchase does not have to be made immediately and the nature of the merchandise desired is unlikely to be clearly defined in advance of the shopping activity. The specialty good (e.g., vacuum cleaners, photography) is one which is purchased because of an attraction other than price at a particular store. The nature of the product and the store at which the purchase is to be made is determined beforehand. For such goods the manufacturer's or retailer's brand and reputation are very important in creating not just consumer brand "recognition" or "preference" but consumer "insistence".

The manufacturer of an electrical washing machine, for example, undertakes to present his sales argument in such a way as to lead the consumer to insist upon the purchase of his particular make (Copeland 1923, p.235.)

The above classification of goods was considered useful for manufacturers' decisions about density of distribution, type of retail store used, the role of the wholesaler and the selling burden manufacturers' advertising must carry. Copeland might also have added to this list decisions about whether to rely on in-store or out-of-store promotion and the training and selling approach of the retail sales-force.

Thirty-five years later, Kotler (1958) argued that the triadotomy should be based on the nature of the consumer's brand preferences. A convenience good is one where the consumer possesses a preference map that indicates equal preference or indifference for a number of brands. A shopping good is one where the consumer, through lack of knowledge, does not possess a preference map and the specialty good is one where the consumer possesses a preference map that indicates a clear preference for one item and no other attractive substitutes. Backlin (1962) extended the concept to the classification of retail stores and patronage motives in combination with the classification of goods. He suggested that the proportion of buyers who fall into each of the nine cells of the two-way, brand-store attitude matrix should be determined and that retailers should use this information in formulating their marketing strategy.

The above frameworks were constructed to help us classify and understand consumers' shopping behavior and information search, particularly its variability across different goods and within particular goods.

It appears that major retailing and marketing decisions have been based on such classification assumptions, even if they have been made tentatively. Consider the current retail market for white home appliances such as clothes washers and refrigerators. There are specialty stores selling multiple brands, specialty stores selling single brands, discount stores selling single brands, discount stores selling multiple brands and department, furniture and hardware stores selling usually one or two brands. Each of these general merchandising approaches in combination with distinctive promotional and pricing policies reflects the market's different beliefs about how the appliance buyer prefers to shop. The diversity in home appliance retailing that exists today indicates that there exists a wide diversity in buyers' preferred approaches to shopping. The different marketing and retailing approaches cater for a range of different needs and behavior.

It is clear that Copeland believed that in the 1950's a clothes washer was a specialty good. It is doubtful whether the clothes washer should be still regarded today as a specialty good. Some buyers are strongly brand loyal but many others comparison shop. The latter group of shoppers have created and sustained fierce price competition, that has contributed to keeping appliance price increases well below the general price index over the last thirty years (Gibson and White 1979). It might even be argued that some consumers regard home appliances as if they were a convenience good. They choose a store selling appliances on the basis of convenience (as it concerns with respect to credit major physical location) and are happy to follow the advice of the salesperson within this store. The following sections indicate some of the diversity in appliance shopping behavior that has been recorded

by post survey research and some of the reasons for this diversity are revealed. However, before proceeding with the literature review, it seems appropriate to provide some general background information and historical perspective.

In 1955 George Yans and Orr Miller undertook a nationwide questionnaire survey of recent purchasers of major appliances.... The research was sponsored by Consumers' Union and the Committee for Research on Consumer Attitudes and Behavior. Some of the more illustrious members of this committee were Theodore Levitt, James Tatin and Benoit Libert. This survey has become a classic with its findings quoted in consumer behavior texts over twenty-five years later, a compliment to the appropriateness of the research objectives and the insightful interpretations. Its questions have been an acknowledged basis for several later studies. The recent published research has used more sophisticated analysis but in substance is little different from this seminal work.

It is however, somewhat misleading to imply that appliance shopping and information search research started in the early 1950's. It is a certainty that proprietary research was undertaken by General Electric and other leading manufacturers well before 1955. Unfortunately, this review is limited to the published findings which represent the tip of the iceberg. Scholars, students and practitioners remain largely in ignorance of the numerous proprietary studies that from year to year influence each manufacturer's and retailer's merchandising strategy. Certain practitioners do co-operate in annual industry studies (e.g., the Transac studies) which provide insight into competitive strengths and trends in consumer behavior. But this information, quite properly,

is not shared with other interested but non-paying parties. Our knowledge is limited by the research undertaken in the public domain but it is even more limited than that. Only a subset of the findings of such public research has in fact been published. Consequently, this is not a comprehensive review. It cannot do justice to all the findings and in fact, in ignorance, probably does injustice to past research and to the truth. Further, it attempts to highlight similarities and differences in some of the major published studies extending over a period 1963 to the present.

To achieve such an objective it is first of all necessary to describe the studies, in particular, their technical features and focus. This is followed by discussion of findings by topic area. The purchase consideration/deliberation time taken by appliance purchasers and explanations for its variability are considered first. The discussion then covers the use of information sources (such as friends, Consumer Reports, and magazine articles), the number of brands initially considered, store search findings, aggregate search effort as measured by various search indices and finally, apparent patterns of information search.

The Survey Research

While the articles reviewed cover a period of twenty-five years, seven of the eight major studies were undertaken between 1963 and 1979. Apparently, no published research was undertaken in the time period. There is a gap of 10 years between the undertaking of the first and second study reviewed and the most recent study was actually undertaken some five years ago. Table 3.1 lists the articles and the actual or approximate year that the survey was undertaken. The 10 year gap is

particularly worrisome, for in that period relatively new appliances such as the clothes-washer and TV moved from innovation and early growth stages through to relative maturity. The concern with the recent research is that there has not been a study with a nationwide sampling from adulthood in the last decade.

Another important issue is the generalizability of the findings across very different types of appliances. Evans and Martin (1984) studied black and white TVs, refrigerators, clothes-washers and stoves. At that time stoves and refrigerators were well established, if not at the maturity stage. However, the clothes-washer was in its growth stage and television was a new innovation. It is hard to accept that the reported shopping behavior of the buyers of such different products should have been collapsed and reported in the aggregate. The differences in perceived risk and consumer knowledge, at that time, in purchasing a TV compared with a stove would seem to be likely to significantly influence shopping behavior and information search. Even in recent studies it appears likely that color TV's, clothes-washers and audio gear are products where buyer product usage experience and past purchasing experience are much less compared with their experience of refrigerators and clothes-washers. Related to this concern are the small groups of buyers of specific appliances studied in some of the research. Clarke, Fry and Martin (1984) included buyers of nine different appliances in their sample of 124.

Collapsing across appliances and using a broad brush in reporting findings not only confuses apples and oranges but makes it difficult to compare results. Comparisons of consumer behavior in different decades have been confounded with the different mix of appliances studied, not to mention different population, sampling frames.

The focus of research, or at least the emphasis of the resulting articles, has also varied quite surprisingly and is identified in Table 3.1. The most common measure has been the study of the number of stores shopped. A composite search index was also used in five of the studies. In one study this was based on principal component factor scores, in another on canonical variate scores and in the remainder on a predetermined subjective weighting of subject's responses. Comparison of these results is particularly difficult because of the uniqueness of these composite indices. Fortunately the other more specific measures have been reasonably consistent, allowing sensible comparisons. These summarized articles represent the bulk of the published literature on home appliance shopping. When considered topic by topic it can be seen that by no stretch of the imagination can it be regarded as substantial and definitive.

Purchase Consideration Time

In studying appliance shopping as a purchase process one of the very first questions that arises is what sort of time period are we talking about. Does the process take a matter of days, weeks, months or even years? The length of this process, from initial problem recognition to the actual purchase, has often been used as a surrogate measure of the complexity of the buying behavior. It has also been used as an indicator of the opportunity to influence the buyer through advertising. This assumes that the longer the decision period the greater the likelihood that the consumer will be exposed to such promotion. Table 3.2 presents the questions asked and results of the two major appliance studies. A substantial number of purchase processes seemingly lasted only a few weeks. The two studies differ

Table 3.2

Purchase consideration time

Reiss and Reiss (1980)

"Could you tell us how long you people were thinking or talking about buying a _____ before you actually bought it, was it several years, several months, or only a few weeks or days?"

	5	cumulative 5
One day or less	4	4
A few days	13	17
A few weeks	15	32
One or two months	9	41
Several months	20	71
One or two years	12	83
Several years	8	91
Not ascertained	4	
	<u>100</u>	

Reiss and Spaulin (1987)

"How long before actually buying a _____ did you people think or talk of buying it; was it a short time, or many months, or what?"

	5	cumulative 5
A short time (a week or two)	51	51
A few weeks (3 weeks to 2 months)	7	58
A few months (3-6 months)	8	66
Many months (6-12 months)	19	85
A year or more	13	98
Not ascertained	2	
	<u>100</u>	

quite substantially in the activities of the actual percentages, the earlier indicating a generally longer period. This may have been the result of the nature of the set of appliances studied, a reflection of the relative financial investment the appliance represented at the time or some other time-related cultural factor.

Reasons for the wide variation in responses, from a day or less to a number of years, have been reasonably extensively studied. Rattus and Mueller (1954) observed that those purchases carried out over several months or longer fell into two almost equally sized groups, those purchasers who were anxious to make a good buy and found it hard to make up their minds and those who postponed the actual purchase for financial reasons. The first group shopped and sought information extensively but this was not necessarily so for those who postponed the purchase. The very short "planning periods" were attributed to precipitating circumstances such as old appliance breakdown, special bargains or sales offers, a residential move or Christmas gift giving. Newman and Stashko (1971), using AIS and PCS, found that conventional individual difference measures did not explain deliberation time. Previous purchase experience and condition of the old product were rather more influential predictors. However, even with interaction terms between the explanatory variables included as explanatory factors, only about half of the variation in deliberation time was explained. The authors legitimately asserted that this is far from the success in predicting individual human behavior even when the population can be subdivided into groups with

substantially different mean. Interestingly, the nature of the appliance, particularly its newness or interest/newness, did not directly influence deliberation time. It may, however, have had an indirect effect, as previous purchase experience would be directly related to product newness.

In a somewhat contrary finding Grunert's and Braden (1976) found that the length of the planning period was not influenced by previous ownership or dissatisfaction with previous purchase. Expected price was marginally influential (statistically speaking) but, somewhat surprisingly, in a negative direction. On the face of it this result asserts that consumers spend more time considering cheaper types of models of appliances. Clanton, Fry and Fortis (1974) came to a conclusion, similar to their predecessors two decades before, that deliberation time in some cases represents search and shopping effort and in other cases procrastination. Financial constraint was positively related to search duration while breadth of need was negatively related.

In conclusion, it appears that purchase circumstances influence the purchase consideration time. The effects of any perceived urgency on search may, however, be moderated by previous experience to the same that the need to purchase an appliance quickly may not influence an experienced shopper's behavior very much, if at all. The extent to which short or long considerations time reflect, as has been claimed, good consumerism and careful planning is debatable as even the most circumspect consumer may be faced with having to make an urgent failure-forced replacement purchase.

Number of Brands Considered

It is a moot point whether the number of brands considered by a prospective buyer should be treated as a stage of search or a measure of the extent of search. In a number of studies it has been treated as a determinant (Brandt and Day 1971, Rowan and Stealin 1972, Westbrook and Fornell 1976) but has also been presented as a measure of the breadth or scope of the shopping activity and information search. In particular it is a key indicator of whether the consumer is treating the appliance as a shopping or specialty goal. Such evidence is presented in Table 3.3. The impact of the number of brands considered on other search behavior, such as number of stores shopped, is discussed in later sections.

The fairly consistent finding is that about one third of the subjects considered only one brand and shopped for that brand. The exception is Rowan and Stealin's study that reported a figure of close to 50%. Generally a somewhat higher percentage considered many brands, reflecting either a very open mind or indifference toward brand names and Butler (1984) and Westbrook and Fornell (1976) found a small percentage who considered a few (2-3) brands but Brandt and Day found a substantially higher percentage. While it is pure speculation, this may be due to the wording of the question—Brandt and Day asked the question in terms of brands considered before trying, the other

Table 2.2
Number of brands considered

Belton and Mueller (1951)

Know from the beginning what brand wanted	33%
Considered two or three brands	34%
Wide-open choice	31%
Paid no attention to brands	4%
Not ascertained or inapplicable	12%
	100%

Brown and Steffen (1952)

One brand considered at the outset	47%
Two or more brands considered at the outset	53%
	100%

Greenitz and Jay (1953)

One brand considered before buying	33%
2-3 considered before buying	30%
4 or more considered before buying	37%
	100%

Hutchinson and Fornell (1973)

Considered only one brand from outset	34%
Considered a few brands	12%
Considered many brands	54%
	100%

researchers directed the questions specifically at the number of brands considered at the very outset of the search. As buyers gather information or shop they may have come from a very open mind to consideration of fewer brands. This would explain the discrepancy between the studies.

It therefore appears that, at the outset of shopping, buyers fall predominantly into two major groups:- those who shop for a single brand and those who are prepared to consider many brands. The first group appears to treat the appliance as a specialty good, the second group either treat it as a shopping or convenience good. The shopping behavior of the consumers who are prepared to consider only or very few brands will identify whether they view the appliance as a shopping or convenience good.

The evidence of what determines or at least varies with the number of brands considered is rather slim. Grewt and Jay (1971) fitted a multiple regression equation to their measures of ranked set size. Whilst statistically significant, it only explained 12% of the variation. The strongest predictors were two dummy variables indicating the shopper who chose a store for prices or specials (increased the number of brands considered - evidence of comparison shopping) but whether shopping period was a few days or less (decreased the number of brands considered). The use of credit reduced the number of brands considered and the direction of the impact of recent residential move (in the last three years) was positive. Grewt and Jay (1970) had even less success in explaining the variability. The number of brands considered was not statistically significantly influenced by various perceived risk measures, previous experience and in particular previous ownership satisfaction. There is some evidence of substantial product differences. Bowerman (1971)

reported that more were refrigerator buyers considered more than one brand compared with washer buyers (58% and 48% respectively). The general absence of strong situational or individual difference explanations for the variations in number of brands considered is quite surprising given the distinctive distribution of the variable.

Number of Stores Shopped

The general conclusion from the research findings is that some 50% of shoppers visit only one or two stores. It is difficult to be more specific as Table 3.4 indicates the studies have used different categorizations of responses. Two of the earliest studies indicate a high percentage who shopped at only one store while the most recent studies indicate greater shopping. This suggests somewhat more comparison shopping today than in earlier decades.

Again there is an intriguing variation in behavior which is yet to be very clearly explained. Brandt and Roy (1971) noted a correlation of 0.19 between number of brands considered and stores shopped. This suggests that the variability in shopping behavior is associated with brand loyalty and whether or not the appliance is treated as a shopping rather than a specialty good. In their multiple regression model, which omitted the strongly related variable, number of brands considered, the strongest predictors of number of stores shopped were length of shopping period, price consciousness, lack of store experience, education, and enjoyment of shopping. The full model of nine independent variables, however, only explained one third of the variation in shopping. Newman and Garlin (1973) undertook an AID analysis with the dependent variable being the proportion of buyers who used a retail outlet for information. This, it should be noted, was not a measure of the

Table 2.4
Number of stores observed

<u>Salama and Reddy (1984)</u>		<u>Claxton, Fry and Portillo (1978)</u>	
No store at all	115	One or two	678
Only one where bought	475	Three or more	128
Two or three	158		1008
Several (4 or more)	285		
Not ascertained	15		
	1028		
<u>Brinoff and Ray (1977)</u>		<u>Guth, Schiffman & Bergman (1979)</u>	
One store	485	One store	175
Two or three	305	Two or three	415
Four or more	225	Four or more	165
	1025		1005
<u>Seaman and Staehlin (1972)</u>		<u>Woolbright and Fornell (1979)</u>	
One store	485	No store at all	45
Two or three	335	One store	215
Four or more	205	Two or three	245
Not ascertained	25	Four or more	165
	1050		1005
<u>Baker and Lambert (1971)</u>			
One store	645		
Two or more	345		
	1005		

number of stores shopped. Number of brands considered (one, or more than one) formed the first split in explained variance followed by product cost, education, product knowledge and purchase circumstances. In another study product cost and social visibility were found to influence number of stores shopped (Simmons and Braden 1974) but past purchase experience (presumably associated with knowledge and brand loyalty) did not influence the extent of shopping. Greenwald (1945) again observed a significant product effect. Fifty-eight percent of refrigerator buyers shopped more than one retail outlet compared with 35% of washer buyers.

Two exercises have examined whether there is an association between type of stores at which purchase is made and extent of shopping. Toller and Lippert (1973) did not find a statistically significant difference in the number of stores shopped between buyers of national and private brands. However, the earlier year study (Cash et al., 1974) found that 88% of those who purchased at a department store shopped at one store but only 8% of those who purchased at a specialty store confined their shopping to one outlet. This suggests that one-store shopping may be partly a result of the attraction of a particular department store.

Type of Store Shopped

The question of what types of stores are shopped and what appears to influence such behavior is currently of particular interest because of the very competitive state of appliance retailing. Preliminary data suggests that all general merchandise/department stores (including Sears) sell around half of all home appliances. About 30% of sales are made through appliance stores and the remaining 20% of the market is shared by discount, furniture and hardware stores.

While Sears may appear to structurally dominate the appliance retailing industry, this is counterbalanced by the support given to the specialty appliance stores by the manufacturing and distributing giants, General Electric, White Consolidated and to a lesser extent Whirlpool. White's acquisition of Frigidaire has added a new wrinkle to the competition between the general merchandiser, the specialty appliance store and the discount store. Regrettably, the published information on type of stores shopped and type of store at which purchase was made is minimal. The Denver Post Consumer Analysis 1944 - 1959 reported that 30% of white appliance goods sales were private brands, up from 20% five years before.

There are, however, findings which give some insight into why people purchase from certain types of stores. Private brand buyers differ from national brand buyers in the following purchase behavior: the husband plays a more important role, store related information is more important and independent information sources are less important (Roth and Lavent 1972). Private brand buyers are also more price sensitive, less brand loyal, more store loyal, spend more time shopping and rate sales specialists and credit offered as more important purchase determinants. In terms of consumer characteristics, private brand buyers tend to have a somewhat lower income and have occupations requiring less training or education. In summary, as with all privately labelled products, price is a major attraction. The findings suggest that the private brand buyer is a price comparison shopper.

Gash et al. (1970) noted significant differences in knowledge, experience, literature read, stores shopped and time spent shopping between consumers who bought radio gear from a specialty shop and consumers who purchased from a department store. Forty-nine percent of

specialty store patrons, compared with 10% of department store patrons, scored "high" on self-reported product knowledge. The percentages indicating considerable purchase experience were respectively 25% and 10%. Six times as many specialty store customers had a high level of special interest regarding appliances and 63% of specialty store customers looked at manufacturers' literature compared with 20% of the department store customers. This level of interest and search was also reflected in greater numbers of stores shopped and greater time spent shopping by the consumer who ended up buying from a specialty store. To the extent that department and chain stores sell mainly private brands it appears the above two studies provide conflicting results. The Belk and Laroche study of white appliances indicates that private brand buyers spend more time shopping - particularly price comparison shopping. The audio gear study indicates that patrons of department stores (who generally sell most of the private brands) shop less. The reason for the difference may well be related to the nature of the product and the reasons for the search. For white appliances, consumers take their time and shop so as to find a bargain - for the audio gear the extensive search is undertaken to learn about new technology and make the "right" purchase as determined by technical specifications and component compatibility.

Information Sources Used

One of the distinctions often made between the purchase of a convenience, non-durable such as a soft drink and a major appliance, is that advice from friends and information from books and pamphlets will be sought before purchasing the durable. Thus, amongst other things, will complicate and extend the purchase process. The research

indicates, however, that the use of such information sources is not as extensive as perhaps assumed. Table 5.5 shows that only 16 approximately one out of ten appliance purchasers is information from a friend, neighbor or relative obtained. In half of these cases it is probably unsolicited information or advice and only about 40% of purchasers receiving information and advice from other consumers find it useful.

Printed information is consulted even less frequently although the evidence suggests such use is increasing. Unfortunately not all of the studies distinguish between manufacturers' or retailers' printed material and independent articles presented in magazines such as *Consumer Reports*. Consequently, it is not possible to tell whether Weitzman and Fornell's results indicate an increased usage of trade pamphlets or brochures, or an increased use of buying guide articles such as appear in *Consumer Reports*, or both. These researchers actually applied the term neutral to books, articles and pamphlets. Manufacturers' brochures and pamphlets are hardly neutral sources. Geros and Mueller found that in their study about two thirds of the published material consulted were trade advertisements or pamphlets.

The Green and Israel's study suggests that newspaper, magazine and TV advertising comes a poor third behind the above information sources, particularly in their rate usefulness. It is, however, based on a sample which included a substantial number of car buyers. The researchers indicated that appliance buyers use of newspaper and magazine advertising was somewhat higher than the car buyers use of such sources. The lack of clear evidence of consumer's use of the different media, either one way or the other, is, at least, surprising given the considerable investment by appliance manufacturers and

Table 3.4
Information sources used

Katona and Ruffler (1994)

<u>Source</u>	<u>Used</u>
Other persons	176
Books, pamphlets and articles	308

Rosen and Janszén (1972)*

<u>Source</u>	<u>Used</u>	<u>Search</u>	<u>Used as Ref.</u>
Other persons**	476	816	328
Books, pamphlets and articles	324	140	326
Newspaper, magazine advertising	283	48	93
Television advertising	190	21	63

Leuthaus and Farrell (1979)

<u>Source</u>	<u>Used</u>	<u>Used as Main Source</u>
Other persons**	626	276
Books, pamphlets and articles	460	156

- * This result is based on a sample of 436 appliance buyers and 217 car buyers.

** does not include self-sample

retailers in newspaper, magazine and TV advertising... Presumably their own proprietary information justifies such advertising.

The higher educated [12 grade plus] and households where the breadwinner has a professional or a technical occupation are heavier users of trade and independent information (Newman and Steele's 1973)... This reflects natural propensities for the higher educated to read more and for people in certain careers to be interested in technical performance details... Those who consulted others for advice tended to be consumers who felt they had to trust others in making the purchase (facilitating the inexperienced first time purchaser) and those who were not brand loyal... Dransky and Gorden (1974) found that the number of information sources consulted (other than retail outlets and discussion with others) increased with experience, expected price and social visibility... Discussions with others outside the family decreased with previous ownership experience but was, unexpectedly, not affected by the perceived social and financial risks... A seven-predictor multiple regression model of number of information sources consulted before buying was reported by Dransky and Day (1975) but it explained only 7% of the variation... The model suggested that the greater the number of brands in mind before shopping (indicating lack of knowledge or low brand loyalty) and the lower the store experience (indicating lack of knowledge or low store loyalty) the greater the variety of information source consulted... It is, however, debatable whether some of these variables influenced the number of information sources consulted or vice versa... For instance, initial discussions with a friend may increase the number of brands considered at the outset of actual shopping...

Information Seeking Indices

A number of composite indices have been constructed to obtain some sort of overall measure of shopping and information search. Grunow and Mueller (1984) constructed a 25 point, five-component deliberation index. Each appliance purchase was scored out of six on circumspectness (evidence of planning or weighing of alternatives) and information seeking, and out of three on price consciousness, lack of brand loyalty and number of features considered other than brand and price. The total of these five scores made up the composite index. The components were generally positively intercorrelated. The researchers found that the composite index increased with education, decreased with age, and peaked at middle income levels (see Table 3.4). The composite index scores were the only results presented by specific appliances and revealed some interesting product differences. As expected, purchasing of a TB (a relatively new innovation at the time) involved greater deliberation. An unexpectedly high percentage of refrigerator purchases involved little deliberation. In fact it appears that at the time shoppers spent more effort purchasing a clothes-washer despite its lower average cost.

Keenan and Starlin (1982) employed a 25 point information seeking index based on buyer's reported use of information, types of sources used and retail stores visited. Using ANOVA analysis the number of brands considered at the outset (one/two or none) created the first split and explained the largest amount of variance. The PCA analysis, however, produced a model that only explained 13% of the information seeking score. Further unexpectedly the cost of product, level of satisfaction with the old product and urgency of purchase did not

Table 3.4
Status and Muller's definition index^a

<u>Education</u>		<u>Mean Group Score</u>			
Grade School		1.7			
High School		9.9			
College		10.0			
<u>Income</u>					
under \$1000		8.0			
\$1000-\$2000		8.2			
\$2000-\$3000		9.4			
\$3000-\$4000		10.1			
\$4500 +		9.3			
<u>Age of Head of Family</u>					
25 - 34		10.2			
35 - 44		9.5			
45 - 54		9.3			
55 - 64		8.5			
65+		7.9			
<u>Definition Index</u>	<u>Tv</u>	<u>Clothes washer</u>	<u>Refrigerator</u>	<u>Stove</u>	
Under 7	10%	25%	25%	10%	
7 - 12	47%	40%	32%	50%	
13+	23%	25%	10%	10%	

^a the maximum score was 24

influence a purchaser's score on the index, which is somewhat at odds with the Kassar and Muller study and some of their other findings. Their major conclusion was that past experience and learning plays a major role in influencing shopping and search, but even this was qualified by evidence that nearly 40% of buyers who had not previously used the product regularly, still considered only one brand at the very outset. Grashels and Frazer (1978) constructed an index by undertaking a principal components analysis on a set of information search measures. Each respondent's composite score was a weighted average of her principal component scores. The weight was the respective principal component's eigenvalue. Expected price paid was the best predictor of aggregate and specific information seeking - contradicting Brown and Shultz's findings. Previous experience did not influence the composite measure.

In summary, the recent studies that have used a composite search and shopping measure have added little to our understanding. They have on the one hand exposed all ready known associations between number of brands considered and search and on the other hand produced rather obscure and contradictory findings. As Brown and Shultz have pointed out this is probably due to the fact that aggregating very different search activities may disguise rather than expose important relationships.

Patterns of Search

Several attempts have been made to examine the relationships between various shopping and search activities. As already mentioned Kassar and Muller found search and deliberation activities to be positively related and Threlk and Fry observed a high correlation between store and brand search. One of the first attempts to describe

the differences in consumers' appliance search patterns was undertaken by Sommerseth (1984). He constructed a matrix of number of brand names examined by number of retail outlets shopped. His refrigerator shopping matrix is presented in Figure 3.7. There was significantly more shopping (both brand and store search) undertaken for refrigerators than for TV sets and clothes washers - the reverse of the result supported by Katona and Mueller a decade before. However his conclusion that refrigerators are a shopping good was too sweeping a generalization. Over one third of the purchasers appeared to treat the appliance as a specialty good: that is, they bought a particular brand and shopped at only one store.

A more sophisticated method of categorizing and describing search patterns was undertaken by Clinton, Fry and Fortis (1974). Using a clustering algorithm they identified six groups listed in Table 3.8. The store intensive searchers shopped with their feet. They consulted very few other information sources and were characterized by a desire to purchase at a special or sale price. These shoppers perceived that substantial product differences existed. Higher education and income were associated with search thoroughness. The balanced-through searchers shopped at a few stores but also sought information from friends, articles and pamphlets.

Immediate need and past experience appeared to be a major reason for the faster search of those groups who searched for a very short period of time. It should be noted however, that speed of search did not necessarily indicate a lack of thoroughness. A general lack of interest in obtaining the 'right' or 'best' buy also reduced the extent of search. The authors concluded that aggregate measures may seriously obscure the nature of buyer's activities. Westbrook and Fornell (1975) confirmed this by revealing a negative correlation between the use of personal and

Table 2.2
 Borden's refrigerator shopping matrix

Number of brands considered	Number of stores bought					Sub-total
	One	Two	Three	Four	Five plus	
One	385	6				411
Two	3	6	2	4	1	16
Three	3	3	6	6	1	19
Four		2	3	3	3	11
Five plus			6	6	8	20
Sub-total	410	18	19	19	13	1000

neutral sources. A necessary condition for an aggregated index is that the components are positively correlated. To be fair, in a previous study, Keenan and Staite (1973) had observed that the correlations between the use of four information sources (other persons, pamphlets and articles, print ads and TV ads) were all positive - ranging from 0.31 to 0.41. Westbrook and Farrell observed a brand-store search correlation of 0.35, much lower than that observed by Keenan and Staite. The correlations between other information search activities were even lower (see Table 3.5).

As well as examining the relationship between search activities, Westbrook and Farrell undertook a canonical correlation analysis using six predictor variables. The key results are also presented in Table 3.5. The first correlation (explaining about one fifth of all the variation) was primarily between store visits and number of brands considered. The state of the wife's experience and education of the buyer, also had some influence on shopping activity. It should be noted that, in the analysis presented, first-time purchasers were excluded from the analysis to make the interpretation of the results easier. This rather suspect decision weakens the generalisability of the findings. The second correlation was between the use of neutral or personal information sources and age and education of the buyer. Old buyers and more educated buyers used more neutral information sources, whereas younger buyers and less educated buyers used more personal sources.

The researchers talked about strong relationships and used a judgmental segmentation approach to statistically reinforce such statements. It is hard, however, for them to dodge the reality that canonical correlation captured only one third of the variability and that highest simple correlation between predictor and criteria measures was only 0.38.

Table 3.8
Shopping patterns

Claxton, Fry and Partis (1974)

Clusters of shopping behavior	% of shoppers
1. Thorough store intensive searchers ^a	45
2. Thorough, slow, balanced searchers ^b	15
3. Thorough, fast, balanced searchers	<u>14</u> 35
4. Run-through, very slow searchers	10
5. Run-through, slow searchers	25
6. Run-through, fast searchers	<u>25</u> <u>55</u>
	<u>100</u>
a. made use of an average of 20 store visits	
b. on average, consulted about three information sources, visited six stores and spent several months considering the purchase	

Table 2.3
Search patterns

Waddock and Barnett (1979)

Search activity correlations:	For	Age	Wts
d stores considered			
d stores considered	0.37		
use of personal sources	0.71	0.08	
use of 'neutral' sources	0.01	0.16	-0.29

<u>Criterion set</u>	<u>Canonical Variate 1</u>		<u>Canonical Variate 2</u>	
	<u>Weight</u>	<u>Contribution</u>	<u>Weight</u>	<u>Contribution</u>
Stores visited	0.40	59%	0.25	4%
Personal sources	-0.43	17%	0.40	37%
Neutral sources	0.09	4%	-0.52	39%
<u>Predictor set</u>				
Age of buyer	-0.03	7%	-0.76	44%
Education	0.24	12%	-0.76	52%
Satisfaction	-0.10	7%	0.12	1%
Buying order	0.37	17%	0.04	0
Attitud alternatives	-0.39	40%	0.17	2%
Joint decision making	-0.15	6%	-0.47	1%
R^2	0.21		0.30	

The findings do however confirm earlier evidence that store search is related to the number of brands initially considered. Other information search is related to age (perhaps a surrogate for experience) and education. Knowing that working order of the previous appliance reflects purchase urgency, it is interesting that this variable was not related to use of personal or neutral information sources.

Conclusion

Of all the product purchases that could be studied by consumer behaviorists we might expect that major appliances along with automobiles, would have received the greatest attention. They are major financial commitments, which everyone has purchased, owned or at least used. They are also exciting products in the sense that they are subject to constant technological evolution if not revolution. Although the contention cannot really be proven, it appears that the store quite reasonable expectation has not been fulfilled. Over the last 20 years there have not been a lot of published articles or books that have studied the purchasing of major appliances. It might even be argued that bookshelves has received more attention. The precious few studies that have been undertaken provide some consistent findings, some conflicting findings and, all in all, very little explanation for the considerable variability in consumers' shopping and search behavior. The absence of such knowledge is all the more extraordinary given the variety of marketing, merchandising and advertising strategy practiced. Either the marketing practitioners in the trade know a lot more than academics about their various target market segments's behavior or at times they are taking some unnecessary cost-of-the-pants gambles. A third, rather unlikely possibility is that it just isn't that important to know whether consumers' are brand or store loyal and by whom they are influenced.

The primary purpose of the literature review was to highlight the similarities and differences in the findings. This task was to an individual's extent frustrated by the problems of comparing findings of research undertaken at different times, that sampled different populations, studied different groups of appliances and, last but not least, asked different questions.

The next common finding has been that about one third of the buyers consider only one brand in the outset. Brown and Magill's study suggested this percentage could be as high as 50%. The number of brands initially considered quite strongly influences actual shopping behaviour. According to the studies, some shopping is undertaken by consumers with an initially open-mind. There are two reasons why consumers appear brand loyal and pre-set. The simpler brand information arises from past experience and result in the purchaser treating the appliance as a specialty good and probably the purchase itself as a specialty store. The reporting of consideration of only one brand may also arise in a situation where the consumer is responding to a special sales offer and as a result did not do any comparison shopping. In the first case the consumer is not going to be very sales or deal sensitive, while in the second case price promotion is of critical influence. In any event both cases result in minimal shopping.

A lack of brand loyalty also has two reasons. An open mind can be due to inexperience or the failure of a previously used brand to create an exclusive loyalty. Inexperience results in greater search but the influence of low repurchase brand loyalty is less clear. Some studies have found that dissatisfaction with a previously used appliance has increased shopping and information search. Other studies have not

found this to be true. Overall, the studies suggest that there may be more computer shopping today than a decade ago.

The consulting of friends, relatives and written information does not seem to be very highly related to actual shopping behavior and appears to be explained by different factors. Perhaps some consumers use such information to complement their shopping and others as a substitute for shopping. This will result in an overall decrease of a relationship between shopping and other information search. The higher educated and more technically inclined need more direct products. This is probably because they are predisposed to reading papers and are able to more readily cope with the richness of the information. The inexperienced purchaser tends to rely more on friends and relatives but often such information is unsolicited. A mother, knowing her daughter is going to purchase a clothes washer will offer advice whether it is wanted or not. In other cases a mother or friend's advice will be sought and she may even go shopping with the buyer.

The condition of the previously used appliance has some impact on shopping behavior and the length of deliberation time, but seemingly very little impact on other information search activity. Appliance failure usually results in a faster purchase process. The common conclusion of the studies is that there are two reasons for a lengthy process. The first is because the household or individual purchaser is undertaking a thorough search and selection exercise and finds it difficult to make a choice. The second is because the household has quite quickly made a choice but postponed the actual purchase because of financial embarrassment or to wait for a special sales deal on the chosen brand. These alternative explanations suggest that researchers should stop

using reported deliberation time as an indicator of the extent of shopping and information search behavior. The impact of a recent residential move was addressed in only one study. Shoppers who had moved in the last three years considered more mobile.

General individual difference measures do not appear to explain much of the behavior. Older buyers shop less, presumably because they perceive they have less to learn. As already mentioned the higher educated tend to consult the written word more often but otherwise their behavior has not been reported as being very different. The middle income groups tend to undertake the most thorough search although the basic purpose of shopping search behavior has not been studied. It appears that it is undertaken for three reasons; to learn by reading or listening to others' experiences, to find a bargain and to find the 'right' product that meets or comes closest to a predetermined performance standard.

A general concern is that these studies are based on self-report and subject to, on the one hand, evaluation apprehension overstatement biases and, on the other hand, memory decay understatement biases (Stewart and Lockman 1975). The inadequate answer to such concerns is that self-report seems the worst form of measure of the truth, until you consider the alternatives (apologies to Churchill). The only real alternative is observational research. This can be used to study in-store behavior (Solomon 1977) but is out of the question for studying a purchase process extending over several days or weeks. A more reasonable criticism of past research is that only a limited number of issues have been explored. As a result there is, in particular, a critical absence of information about buyers' distributive use of the advertising media, the relative role of the salesperson in providing information and

attitudes, and measures of shoppers' prior uncertainty and motivation... Many crucial questions remain unanswered... Based on the past research, what we can say with some confidence is that past experience, purchase circumstances and product differences are the most initial determinants of whether a lot of shopping is undertaken and whether the buyer treats an appliance as a convenience, shopping or specialty good. A systematic examination of product differences, purchase circumstances and their interactions on appliance buyer shopping and information search has yet to be attempted. Only one of the above mentioned studies examined higher order, interactive effects of determinants on search and shopping behavior [Basson and MacInnis 1991]. Using ANCOVAs they identified interaction effects between the cost of the product, brand loyalty and number of brands initially considered on buyer decision time. The interactive effects of situation, product and individual difference measures were not explicitly studied.

CHAPTER FOUR RESEARCH PARADIGMS AND HYPOTHESES

Introduction

The basic thesis of this research is that purchase circumstances can play an important role in determining the amount and nature of appliance shopping and information search. The practical implication of this proposition is that manufacturers, retailers, public policy makers and consumers who seek to influence appliance buying behavior should take cognizance of situational factors that modify and constrain shopping and search activity.

The purchase circumstances that are of particular interest are the precipitating circumstances or situations that created the initial problem recognition and purchase process. Two of these situations are a residential move and the failure of the currently used appliance. Both contribute considerably to the annual sales volume of white appliances.

A United States Bureau of the Census study revealed that households that have moved in the previous 12 months (21% of all households) purchased 40% of all the new ranges sold, 52% of all the refrigerators, 49% of all the clothes-dryers, 42% of the dish-washers and 42% of all the new clothes washers (Deeken and Wilson 1974). A considerable proportion of the re-sourcing appliance purchases are failure-forced. An early study found 49% of the clothes washer purchases, 42% of refrigerator purchases and 36% of range purchases were precipitated by product failures (Galena and Mueller 1954). Day and Brossit (1973) found that a little over a quarter of all household durables purchased were failure-forced and a more recent tele-

phone survey, undertaken in Washington D.C., indicated that over 80% of the clothes washer purchases were failure-forced (Sidel) and Benita 1976). In this study fewer than one in five of refrigerator replacement purchases were made under such conditions but a majority of the refrigerators that were replaced (89%) and almost all of the washers replaced (93%) were not operating satisfactorily.

These two purchase situations are of particular interest because a number of writers have claimed that they impose special demands and constraints on the search and decision process (Robinson 1984, Anderson and Burton 1984, Bell 1985, Hickman and Bittle 1979). New residents enter a somewhat unfamiliar retailing environment with few old friends and associates whose advice and counsel can be sought. Each household also has many important activities to undertake, such as settling into new jobs and new schools, meeting new friends and neighbors, contacting utilities, locating medical and other professional services and generally familiarizing themselves with the supermarkets and shopping centers. All of these activities will increase the opportunity cost of time spent specifically on shopping for a new appliance. Pressure may also exist to quickly acquire certain appliances so that the household can function efficiently.

A failure-forced replacement situation will very likely demand a quick purchase. This situation implies recent, perhaps unsatisfactory, usage experience and possibly a neighbor's service call. These features of the situation may also influence subsequent information search and shopping activity. In addition to failure-forced and accidental-loss purchases, discretionary replacement purchases (purchasing a larger or smaller appliance or one with preferred features) were also of interest, particularly to provide a comparison basis.

Determinants of Search and Shopping

The initial precipitating purchase situation that created the need for the purchase is only one of many possible determinants of search and shopping activity. A list of some of the individual differences, product and situational determinants of search is presented in Table 4.1. It is by no means exhaustive and excludes situational variables. These are subclassified using Bell's (1976a) situational taxonomy with the addition of one further category. The new category, labelled retail competition, includes measures of retailer marketplace activity at a particular time and in a particular geographical market.

The definition of an antecedent state has been broadened to include antecedent events, rather than just antecedent states of the person. According to Bell an antecedent state is a temporary personal mood or condition that existed immediately antecedent to the current situation but which influences behavior in the current situation. A precipitating circumstance is an event antecedent to the purchase process situation or situations, but which may influence behavior in the current situation by changing the characteristics of the current situation. Bell's antecedent personal states operate in a similar manner. They influence a person's psychological view of the current situation, that is the person's view of situation characteristics and motivational responses to those characteristics.

A precipitating event that produces particular situational circumstances is one of the earlier situational variables to define. It can be fixed in time and space and does not vary over the purchase process. Other situational determinants such as features of the physical and social surrounds change during the purchase process and present very serious modelling and measurement problems. This does mean that the impact of

Table 4.1

Schematic of search and shopping behavior

Person differences:

Past search, purchase and usage experiences; education; general shopping and decision making style; income and wealth; employment; stable life-style; interests and activities

Product differences:

Price, brand and model differences; number of alternatives; technological complexity; rate of technological change.

Situational differences:

Physical surroundings:	travelling distances from and between stores; weather; variety of different stores; features of individual store locations
Social surroundings:	number of local friends and relatives and extent of contact with them; crowding of stores; friendship with salespeople or inspectors
Temporal perspective:	time-pressure, time of day, time of year
Task definition:	purchasing for self or as gift.
Antecedent states and events:	Temporary financial circumstances, tiredness, prioritizing circumstances
Retail competition:	special advertising, promotions and prices.

such situational determinants as shopping and search behavior cannot be studied. The purchase process could be described as a series of *mini tasks* undertaken at a particular time and in a particular situation. This would result in a sequence of situational snapshots of the purchase process. In practice, it would require continuous monitoring of the shopper which would be ethologically very demanding. Perhaps, one of the reasons why past research has focussed on person and product differences rather than shopping situation effects is that the former measures do not change (or are assumed not to change) over the purchase process.

Paper Objectives of the Study

The major objective of the study was to examine the impact of the precipitating purchase circumstances on appliance shopping behavior within an interactionist framework. Such a perspective proposes that the impact of situational variables may depend on the nature of the product and individual difference characteristics. It implies that the three groups of determinants presented in Table 4.1 can have interactive as well as direct effects on shopping and search behavior.

2. Conceptual Framework

The interactionist model used in this research is presented in Figure 4.1. The three overlapping ellipses portray the influence of person, situation and product determinants. The purchase process is undertaken within each of the three spheres or, to be more precise, ellipses of influence. It is also undertaken within the interaction of these three influences, thus acknowledging the potential of the field theoretic interaction of person, situation and product on the search process.

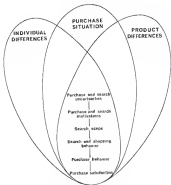


Figure 4.1: The Interactionist model

The ordering of the constraints that make up the search and shopping process is only suggestive. It starts with higher uncertainty. Information search and comparison shopping is undertaken primarily because certain decision uncertainties exist (e.g., what to buy, how to choose and where to buy). However, other search and shopping motivations may also be present (e.g., curiosity and enjoyment) to varying extents depending on the product, the individual and the circumstances. The uncertainties and auxiliary motivations determine the perceived benefits of broadening the scope of the search (i.e., the number of brands considered, stores stopped and different sources consulted) and the specific search and shopping behavior.

The first set of hypotheses that address this model deals with buyers' perceptions of their purchase circumstances and what determines a buyer's participation in the decision and shopping process. This is followed by sections hypothesizing the direct effects of the precipitating circumstances and several product and individual difference determinants on uncertainty, motivations and search, shopping and buying behavior. A consideration underlying all of these hypotheses is that the relationships they predict may be moderated by other determinants within the interactional framework. Some process hypotheses relating uncertainties and motivations to behavior are presented in the last section.

Perception and Participation Hypotheses

- H₁: Failure-forced replacement purchases will be made under greater perceived time pressure, than other situations.

The rather obvious distinctive feature of the product failure situation is that the purchase is precipitated by the collapse of the previously owned appliance. Frequently this is somewhat unexpected and consequently the need to shop for a new appliance will not have been

anticipated. Squeezing the shopping and information search in between already committed activities will constrain this activity and produce time-pressure. In addition, the need to have a functioning appliance in the household is likely to demand a quick purchase.

- H_2 The failure-forced replacement purchase of a refrigerator or freezer will be made under greater time-pressure than the failure-forced replacement purchase of a clothes washer or dryer.

When a refrigerator fails there is an immediate risk of food spoilage and a substitute needs to be found quickly. The shopper is likely to use friends and relatives' appliances or a short-lender to temporarily store their food while they quickly shop, buy and install a new appliance. The failure of a washer or dryer will also disrupt the operation of the household but the services of a neighbor's appliance or a laundromat will somewhat alleviate the pressure. The replacement is likely to be made in the next week or so rather than the next day or so.

- H_3 Store familiarity will be lower for buyers purchasing an appliance because of a residential move.

The expectation is that residential movers, particularly those moving into a new locale, will not be very familiar with the local shopping routines. They may be familiar with the local general merchandising stores such as Sears, Jockey's and K&W but they will know nothing about the local specialty appliance stores. This suggests that residential movers are likely to be familiar with two or three stores selling appliances, other buyers will be familiar with four or more (including the local specialty stores).

- H_4 The incidence of joint decision making is higher amongst lower income households.

Based on Garbino's proposition 18 (1931), the assumption is that the purchase will be, comparatively speaking, a greater financial commitment

and of greater importance to the lower income household. The more important the decision is to a household the more likely it will involve both husband and wife.

- H₄: The involvement of the husband will be greater in the purchase of expensive items compared with the purchase of white appliances.

Husbands are expected to be involved more in this purchase because of their curiosity with the technical features of the innovation and concern over the usage and performance risks. They are after all, going to eat the food cooked in the oven and many are going to use the oven themselves.

- H₅: Refrigeration appliance purchases will involve more joint decision making than laundry appliance purchases.

Assuming that more joint decision making tends to be undertaken for major financial commitments this hypothesis based on a Gruberts (1973) proposition seems reasonable. In shopping white goods it is, however, confounded with another of his propositions which states that the more a husband uses a product the more likely he will be involved in the decision. Refrigerators, as a product class, are the most expensive of the white appliances and are also used the most by the male head of the household.

Expertise and Reluctance Hypotheses

- H₆: The experienced buyer is surer in her knowledge of the brands available, features available, and choice criteria and is more certain about what brand to choose, and which stores to shop.

This hypothesis explains why experienced buyers were revealed in Chapter Three to shop less. They are more knowledgeable, confident and sure about aspects of the decision and shopping. They are also more likely to, know how they are going to make their choice and how the models differ, have definite brand preferences and know where they are going to shop. For them, less uncertainty exists to be reduced by search and shopping activity.

H₉ Residential buyers will be less sure about where to shop.

This will hold provided that unfamiliarity with local specialty appliance stores produces uncertainty about where to shop.

H₁₀ Before starting their shopping, microwave buyers are more uncertain about the features available, brand and model performance, choice criteria, brand choice, model choice and store choice.

The microwave oven is a new innovation, still in its early stages of diffusion. Generally speaking little product knowledge exists amongst buyers as almost all of the purchases will be of a first-time nature. The microwave oven buyers should be a little more certain about where to shop as other appliance shopping experience should generalize.

H₁₁ Shoppers buying because of an appliance failure are—

- a) less inclined to want to learn new things about appliances
- b) less inclined to want to enjoy the shopping for its own sake
- c) less inclined to seek the latest technology
- d) more inclined to seek negative product information
- e) more desirous to get the purchase over and done with quickly

The underlying rationale of these goal related hypotheses is that under time-pressure the emphasis is on quickly making the purchase and minimizing postpurchase performance risk. The avoidance of new "untried" technology and minimization of exploratory learning are two means to such ends. The focus on negative information is an efficient way of minimizing the risk of purchasing a "lemon". Wright (1979) has suggested that consumers under severe time pressures tend to place greater emphasis (weight) on negative product characteristics than consumers who can shop, search and come to a decision at a more leisurely pace. The two risks involved in purchasing a technologically evolving product are essentially the risk of missing the boat (not taking advantage of the new technology available and regretting this for several years) and the risk the boat will sink (the appliance will malfunction). It is expected that in contrast to other

purchase circumstances, forced-replacement purchases will produce greater interest in minimizing the risk of product failure because of purchase time-pressure and the recent product failure.

- H₁₁) Shoppers replacing a still operating appliance are more interested in obtaining the latest technology.

Grabois (1972) and Kotler (1960) have suggested that a feature of a trading-up purchase undertaken at leisure will be a heightened interest over the 'replacing the lost' type of risk.

- H₁₂) Inexperienced buyers are more interested in learning new things about appliances.

This interest reflects their desire to reduce their uncertainty about product features and brand and model performance.

- H₁₃) Microwave shoppers are more concerned than other appliance shoppers with identifying operating problems. They are also more interested in learning new things and technical details.

As the microwave owns to relatively untried technology, buyers will be more concerned with the risk of possible operating problems. The product's inherent novelty will also add to the interest in learning about the new product and its technical details.

Search and Selection Strategies

- H₁₄) Inexperienced buyers will rely more on new information and others' advice than past experience in making their choice.

Shoppers are likely to approach the purchase task with one or two of several strategies in mind. One will be to rely on past experience and knowledge to make the choice of brand and model. Another strategy is to seek new information about features and brand performance and make the choice based on this new information instead of on past knowledge. A third possibility is that the shopper will not seek new information or rely on their past experience but rather seek a more able judge to give them advice on where and what to buy. The above hypothesis suggests

that inexperienced shoppers will more frequently rely on the second and third strategies or a combination of the two and the reverse will hold for experienced buyers.

- H_{15} Shoppers buying because of a residential move will rely more on others' advice in making their choice compared to shoppers buying for other reasons.

The expectation is that buyers who have recently moved and are unfamiliar with local stores will seek advice from neighbors or work colleagues on where they should shop. To this extent they will rely more on others' advice.

- H_{16} Failure-forced replacement purchases will have the highest incidence of very short consideration times. Systematic move purchases will have the highest incidence of medium length consideration times and purchases replacing still operating appliances will have the highest incidence of long consideration times.

Previous researchers (Rosen and Starits 1971, 1972, Clanton et al. 1974) have come to the conclusion that, all other things being equal, product failure will result in shorter consideration or deliberation time. Residential moves probably plan their move several months ahead but the purchase of replacement appliances, a repercussion of the move, may be recognized just a few weeks before the move. Consequently, movers will have the highest incidence of medium length consideration times. Trading-up shoppers make up a significant proportion of the buyers replacing a working appliance. This group is expected to have the highest incidence of long consideration times.

- H_{17} The search scope (number of brands considered, stores shopped, sources consulted) and shopping time of shoppers buying because of a residential move will not be significantly different from those replacing a still operating appliance.

Andreasen (1988) suggests that the recent mover's approach to various tasks is more intense than usual because of the "heightened nature" of all family activities in response to the move and a new environment. It is

perhaps analogous to the somewhat frantic exploratory and nest building behavior of laboratory rats when they are moved to a new environment... However his specific suggestion was that the same amount of shopping activity would be undertaken (after accounting for previous shopping experience and product effects) but squeezed into a briefer period of time. Westfall and Kohn (1978) have alternatively surmised that the shopping activity (number of stores shopped) of recent movers will be greater as it is part of general exploratory behavior directed at locating and learning about shopping centers, stores and available information sources... Not all of this learning will be relevant for the specific purchase under consideration.

H_{1b} The search scope and shopping time of shoppers replacing a failed appliance will be narrower than buyers shopping under other circumstances

The expectation is that time-pressure will narrow the scope or focus of search. The shoppers will concentrate on shopping one or two brands and stores and are unlikely to consult many sources of information. Raman and Staelin (1971, 1972) and Clanton et al. (1974), however, observed that the extent of search did not seem to be related to consideration time and presumably time-pressure. While their operationalization of the time extent of search was somewhat vague it appears to have referred to the use of different information sources. Westbrook and Farwell (1979) found some indirect evidence that time-pressure reduced the number of stores visited but concluded that contrary to the above hypothesis, time-pressure has no impact on the use of personal or other independent sources.

H_{1c} Inexpert buyers will have a broader search scope and spend more time shopping.

Previous purchase experience has been found in past research to be the most influential individual difference determinant of shopping and search behavior (Raman and Staelin 1971, Clanton et al. 1974). The learning

from past shopping and information search and the first-hand evaluation of the brands and models purchased most, at least to some extent, reduce the need to search. MacInnes and Farnell (1972) observed that inexperienced buyers consult more personal sources and written information sources than experienced buyers. The same researchers did not find that experience had any appreciable effect on the number of stores checked.

⁸¹⁰ The search scope and shopping time of refrigerator and freezer buyers will be greater than the search scope of washer and dryer buyers.

Key (1970) suggested that the longer the purchase cycle, the greater the need for new information about features, brands and relevant appraisal criteria. Product knowledge will have become obsolete. This would suggest that refrigerator and freezer purchases will involve the most shopping, at least for the replacement purchases, as they have the longest average life. Unfortunately it is not that simple as the different rates of technological advancement and the consumer's involvement with the product have to be considered. It is hard to judge whether the refrigerator's icemaker and energy efficient features are greater technological advances than the washer's new features. The washer may also be a more involving product. Although relegated to the basement or garage the washer is operationally complex and even if fully automatic still involves some judgment and skill in its operation. Too little detergent, too much detergent, too hot a wash, or too vigorous a wash can have very obvious and even destructive consequences. There is more to learn about the operation of a particular washer than a particular refrigerator.

On balance it is expected that because of the expense and longer purchase cycle the refrigerator and freezer will be shopped for more than the more involving washer and dryer.

- H₁₁ The search scope and shopping time of alternative buyers will be greater than the search scope of the white appliance buyers.

Given the greater uncertainty and curiosity associated with the microwave purchase it follows that shopping and information search will be greater for the new innovation.

- H₁₂ Shoppers purchasing because of a residential move will more often consult independent personal sources and newspaper ads...

Andriessen concluded that in this situation personal sources of information are more important but did not detail any reasons. Bell (1989) observed that movers will use personal sources such as realtors, new neighbors and co-workers rather than the phone-book and newspapers in choosing retail outlets to shop. Apart from the very relevant local experience that such advice provides, one reason for consulting personal information sources is that the intended shopping activity is a topic of discussion that can be used in establishing new professional and social relationships. Andriessen also has suggested that movers will consult newspapers more often primarily to gather information about appliance stores. It may also be one manifestation of a generally greater interest in all newspaper ads as part of the learning activity of recent movers.

- H₁₃ The college educated shopper will consult more written sources of information.

This hypothesis is based on findings of Westbrook and Forewell (1979), Roman and Starlin (1972) and Claxton et al. (1974) who surmised that better educated shoppers have greater access to and find it easier (less costly) to use written information sources.

- H₁₄ The higher income household will more often consult Consumer Reports and friends...

This is based on a theory proposed by Sirgyler (1967) that, because

of the greater opportunity cost of their time, higher income households will prefer to consult an information service that saves the time involved in comparison shopping. Consumer experts provide such a professional service and consulting with friends represents a pooling of knowledge and comparison shopping experience.

- H₂₀ Buyers of microwave ovens will consult personal sources more often than buyers of white appliances.

A characteristic of purchase situations where perceived risk is high, as with the purchase of a new innovation, is that personal sources will be more often consulted. Trustworthy advice, knowledge and reassurance is sought from friends and relatives.

- H₂₁ The salesperson will be more often considered, consulted and found useful by microwave oven buyers compared with the buyers of white appliances.

This claim is not based on previous research. It is made in the belief that many buyers cannot turn to a friend or relative with greater knowledge or experience than themselves. They are likely to consult such personal sources but in many cases find the information not very informed and useful. Rather than, or as well as, reading about the product they will personally seek a measuring and knowledgeable salesperson.

- H₂₂ Experience reduces the impact of shopping circumstances on the scope of search and consultation of sources.

This general interaction hypothesis suggests that many of the above situation hypotheses will be moderated by the buyers' shopping experience. The impact of situation will not be as great for in all circumstances the experienced shopper will shop less and consult fewer sources.

- H₂₃ Buyers replacing a failed appliance are less likely to shop at a discount store.

This hypothesis is based on the assumption that discount stores are perceived to have suspect after-sales service and this discourages buyers

from shopping at this type of store. Conservation induced by the recent events and time-pressure will reduce the desire to sacrifice store reputation and service for the price discount.

H₁₈ Shoppers buying because of a residential move are more likely to shop at Sears.

This hypothesis is based on the reputed advantage of Sears nationwide coverage and the ready transfer of this store's goodwill and loyalty from place to place. The ready transfer of its credit facility is another reason why this general merchandiser will be shopped.

H₁₉ Experienced buyers are not more likely to shop at a specialty appliance store.

This null hypothesis is stated because it was not expected that the behavior reported by Lusk et al. (1976) would be observed. They found that experienced audio buyers shopped more often at a specialty store. Their conclusion was that the more experienced, interested and self-assured shop in a store offering a much wider, more complex and, at times, more confusing range of choices. This phenomenon is probably product specific as more experienced white appliance shoppers are not, per se, more interested in the product as is likely to be the case with experienced audio buyers.

H₂₀ Microwave oven buyers are less likely to shop at a discount store.

Microwave oven buyers will prefer to shop at stores offering the reassurance of strong after-sales service and support of the manufacturer's warranty. They will also seek experienced, competent salespeople rather than self-service. Such factors will count against discount stores and any price advantage they offer.

H₂₁ Shoppers buying because of a residential move will be less brand loyal and are more likely to change their initial brand intention during their shopping.

The rationale for this hypothesis is two-fold. Anderson claims that brand switching is more likely because favored brands and stores (possibly associated with brands) may be absent and, secondly, a residential move is likely to result in an accompanying change in social status or life-style which will change old loyalties, particularly brand loyalty. In a similar vein, Day (1982) suggests that a change in residence is likely to result in changes in general outlook and an embracing of old loyalties and habits. Bell (1988) disagrees. He observed that mobilis carry over their store loyalty. In his study nearly one third of furniture and appliance purchases made by his long distance mobilis were made without searching for information about local suppliers. Access to carried over credit facilities is one major reason for the maintenance of store and associated brand loyalty.

- H₃₄ Inexperienced buyers are more likely to change their initial brand intention during their shopping

At the outset of their shopping, inexperienced buyers will not be strongly committed to a particular brand or model. They are therefore more likely to change their intention as a result of the information and advice they receive during their shopping and information search.

- H₃₅ Failure-forced replacement purchases are less likely to be made at a sale or specially reduced price

Buyers shopping under time-pressure will have less opportunity to take advantage of sales offerings and they will be generally less interested in seeking a reduced price, as finding a suitable replacement quickly is the dominant goal

Final Hypotheses

The hypotheses presented up to this point have addressed some effects of individual differences and search circumstances on purchase and search uncertainties, motivations, focus and behavior. However, Figure 4.1

suggests a series of relationships between attitudinal and motivational constructs and the reported behavior.

- H₂₀: A lack of prior knowledge and awareness at the start of the search and shopping process will result in:
- A greater desire to learn new things
 - Greater use of newspaper and magazine ads
 - Greater use of Consumer Reports
 - Greater use and usefulness of the salesperson
 - A greater tendency to rely on other people's advice.

Put rather more simply, uncertainty and ignorance will lead to a desire to explore, learn and/or rely on others' advice. The examination of these hypotheses will require the factoring out of the effect of time-pressure and the separate consideration of the microstore environment.

- H₂₁: A desire to spend as little time as possible shopping will result in:
- Less interest in learning new things
 - Less interest in wanting to enjoy the shopping activity
 - Less interest in technical details
 - Less interest in obtaining the most modern technology
 - Greater interest in identifying negative product features
 - Greater reliance on past experience
 - Fewer brands being considered
 - Fewer stores being shopped
 - Less time spent on actual shopping
 - Less likelihood of shopping at discount stores
 - Higher brand loyalty
 - Less likelihood of changing model first considered
 - Less likelihood of changing brand first considered
 - Less likelihood of buying on sale or reduced price
 - Less likelihood of negotiating a lower price
 - Less likelihood of shopping terminating because shopper found exactly what was wanted
 - Less postpurchase product satisfaction

Whether imposed by search circumstances or a general disinterest in shopping and information search the essence of the above hypotheses is that the motivation to get the purchase over and done with overrides other shopping motivations. It also limits the search scope, simplifies search activity and results in a choice being made from a group of products, none of them meeting all the requirements (i.e., are exactly what was needed).

H₁₁: Interest in learning new things about appliances, buying new technology and enjoying the shopping will be positively related to:

- a) Both other
- b) Consideration of more brands
- c) The consulting of more sources
- d) Greater exposure to advertising
- e) More time spent shopping
- f) More stores being shopped
- g) Less brand loyalty
- h) Changes in brand first considered
- i) Changes in model first considered

The assumption of this series of hypotheses is that the desire to learn, buy new technology and enjoy the shopping will be interrelated and will lead to greater exploratory behavior, epistemological curiosity and open-mindedness in choice of brands and stores.

H₁₂: The extent of the perceived differences between brands will be related to the time spent shopping, number of stores shopped and use of Consumer Reports.

This hypothesis is derived from the classical belief of economists that the effort expended in search (either time or expenditure on an information service) is related to the perceived variability of the offering (Kosove 1961, Stigler 1961, Nerlove 1963, Grunberg 1972). Prior to appliance shopping, consumers usually have no idea of the size and features they seek. If not, this is quickly established. Consequently the variability in the offering that is particularly relevant to appliance shopping and search activity is the perceived differences across brands rather than the perceived model differences within brands. This is an important assumption. Clanton et al. (1974) concluded that buyers who emphasized store visits in their information search were more likely to perceive substantial product differences. It is unclear whether the perception caused the shopping emphasis or vice-versa. Similarly the use of Consumer Reports (which emphasizes brand differences) is expected to be related to perceived brand differences in an ambiguous causal relationship.

- H₂₈ The consulting of Consumer Reports will be related to the consideration of many more brands, changes in brand and model preferences, and the shopping of fewer stores.

A consumer who consults Consumer Reports must be prepared to have his or her preconceptions challenged and by the very act of reading the report, be prepared to consider more brands, very likely some of which she has never heard of before. While the consulting of Consumer Reports indicates a deliberate act to widen the scope of brands and models considered, it may substitute for a certain amount of store shopping as only stores stocking the most recommended brands will be shopped and these can be identified beforehand or as the shopping proceeds.

- H₂₉ Buyers of private brand appliances (purchases made at Sears, J.C. Penney and Montgomery Ward) will:

- a) Perceive greater price differences
- b) Spend longer periods of time comparison shopping but will not shop in more stores
- c) Buy more on sale and special deals
- d) Rely more on store related information
- e) Rely less on independent information sources
- f) Rely less on past experience

This series of hypotheses is based on the findings of Riffe and Lambert (1972). They suggest that the private brand buyer is by nature a price conscious, comparison shopper who is more inclined to trust trade literature and salesmen.

- H₃₁ Joint decision making increases the likelihood of a private brand purchase, increases shopping activity and results in greater postpurchase satisfaction

Riffe and Lambert (1972) reported that joint decision making increases the likelihood of a private brand purchase and Westerbeek and Fornell (1975) observed that it resulted in more shopping. Reeves and Steelco (1972) dispute that the involvement of the husband in the appliance purchase decision increases shopping activity - they observed it decreased search activity. Grunert (1972) has suggested that joint decision making reduces the possibility of postpurchase disputes arising over the choice.

Conclusion

The hypotheses that are presented suggest a number of effects that precipitating purchase circumstances, individual differences, product characteristics and their interactions have on the search process. They are a rather piecemeal assortment, by no means addressing all of the relationships suggested by Figure 4.1. It also needs to be emphasized that the objective of the research was not to test the hypotheses. This could not be done. Most of the analysis involved univariate or multivariate measures of association, of one form or another. Such analysis tests the statistical significance of a relationship but cannot test an hypothesis or a model. The goal of the data analysis was, therefore, to examine the statistical significance of the relationships suggested by the hypotheses.

CHAPTER FIVE SURVEY METHODOLOGY

Introduction

A nationwide panel survey of recent appliance buyers was undertaken in November-December 1976. It was preceded by a considerable amount of preliminary research and pre-testing. The study of relevant literature was facilitated in 1973 and culminated in a Marketing Science Institute monograph (Duncan and Wolfe 1975). A series of in-depth interviews and discussions was held with appliance salespeople in Indianapolis and Jacksonville, Florida in July-August 1976. To gain further perspective two focus group discussions with recent buyers were also conducted.

Throughout this period the major survey research questionnaire was constructed and several versions of the instrument were pre-tested on recent buyers. The questionnaires also underwent the scrutiny of academic supervisors and in addition was criticised and finally approved by the senior market research staff of Sears, General Electric, Frigidaire (General Motors) and Whirlpool. These sponsoring organisations were visited in August, 1976. A number of questionnaires used in proprietary studies were provided by the companies which, with the instruments used in two earlier published studies (Duncan and Stanits 1971, Clayton, Fry and Partis 1975), served as a very useful pool for suggesting and comparing question content and wording. Finally, the questionnaire was refined by the market research staff of the Home Testing Institute in New York who were contracted to supply the samples and undertake the actual data collection. They undertook some in-house testing and made a number of

suggestions to improve the wording of several questions and the layout of the instrument. From drawing board to final printing the questionnaire progressed through at least 10 drafts.

This chapter only describes the survey research methodology. The scenario experiment methodology is presented in Chapter Ten. The following discussion presents a rationale for the choice of appliances studied, describes the nature of the preliminary focus and in-depth interviews and provides details of the survey research screening and follow-up phases. This includes several profile tables that enable the assessment of the representativeness of the findings. Finally, the structure and purpose of the seven sections of the questionnaire are outlined.

Refrigerator Studied

Refrigerators and clothes washers were the two appliances chosen as the focus of the study. Together they revolutionized home economics and are outstanding examples of marketing's contribution to the ease and convenience of twentieth century living. The two appliances are in some ways very similar, in other ways they are quite different. Both have very high saturation rates (refrigerators 100% and washers 98%, according to *Householding Week*) and high replacement purchase rates (refrigerators 66%, washers 38%). Replacement purchases exceed first-time purchases for both products. Unlike ranges and dishwashers, which tend to come with the dwelling, refrigerators and washers are more likely to be shopped for and purchased by members of the household. As described in the preceding chapter, both have significant replacement sales arising from a residential move or failure of a previously owned model.

Refrigerators are usually significantly more expensive and according to editorial statistics they have a longer life (16 years compared with a

washer's life years). They are probably more subject to appearance and style considerations and the replacement of a failed refrigerator is usually more urgent than the replacement of a failed washer. On the other hand, a washer has more mechanical features, requires more operating skill and is an appliance almost exclusively used and purchased by the housewife.

Despite these differences, the initial intention was to study only refrigerators and clothes washers so as to reduce the between-product variations in shopping behavior that may have been present in earlier studies (see Chapter Three). Unfortunately the screening survey resulted in a shortfall of recent buyers of the two appliances. The contingency plan was to include households who had recently purchased stand-alone freezers and clothes dryers in the sample. In reflection, it was further decided that the opportunity presented itself to study the purchase of a major home appliance that could be contrasted with the four white appliances. For this reason recent purchasers of a relatively new innovation, microwave ovens, were followed up in the major survey.

Focus Group and In-Depth Interviews

Twenty salespeople from a number of specialty and chain stores were interviewed between June and August 1978. Initially it was intended that four or five focus groups would be run and in fact two such sessions were run, each lasting approximately one and a half hours. It was found, however, that the experienced salesmen and saleswomen dominated these discussions and controlled the work. As a result it was decided to abandon this discussion approach in preference for in-depth personal interviews with senior salespersons. The sessions lasted about an hour each. The objectives of these discussions were to provide background perspectives, to gain an understanding of the role of the salesperson as

an information provider and adviser, and to suggest new lines of enquiry. A summary of the unstructured interviews is presented in Appendix A. It does not do justice to the richness of the information provided by these people.

Two focus group sessions with recent buyers of white appliances were run in September 1988. An advertisement was placed in the *Salisbury Sun* twenty people responded and sixteen women who had purchased an appliance within the last three months eventually participated. There were two major objectives: the first being to gain some understanding of their shopping behavior, the second to pilot test an early draft of the questionnaire. This exercise followed the unstructured conversation. A summary of these focus group discussions is presented in Appendix B.

The Survey Research

After due consideration of the alternatives it was decided that the only way of undertaking the survey was to use the services of one of the major research panel companies. There seemed to be no other way of obtaining access to a nationwide sampling frame. A nationwide study was preferred over a study undertaken in a particular region or city because its findings would have more general application. As noted in Chapter Three there has not been a nationwide study undertaken in the last decade whose results have been reported in the literature. Consideration was given to approaching the sponsoring companies to obtain the names of recent purchasers from their warranty records. This project was abandoned partly because of the administrative difficulties of getting representative samples from each source and partly because the absence of buyers of other manufacturers' appliances and the buyers who had not returned a warranty card would create a biased sampling frame. However, the major fear was that a response-rate considerably less than 50% might

be obtained despite the very best efforts. Response-rates of between 70% and 80% are common for nationwide, mail surveys (Gibbsley 1974). A telephone survey might have produced a higher response rate but was not of the question because of the interview costs and the limitations on the nature of the questions that could be asked. Personal interviewing would have been prohibitively expensive.

A literature search located only one critique of single panel surveys. It was written by BIDDLE (1962) who was then President of Market Facts, Inc., a major supplier of such panels. Several market research companies offer panels of households ranging in size from 1,000 to 5,000. Several or more of these separate panels can be combined to make up a sample of, in some cases, up to and exceeding 100,000 households. Each self-contained panel of say 5,000 households is constructed by quota sampling so that they are balanced to match current Census, family population characteristics with respect to geography, income, population density, age of head of household and family size. As they are not probability samples they, strictly speaking, cannot provide true estimates of population parameters.

The response rate is generally between 80-90% which virtually removes any concern over non-response biases at the survey stage. However, the sampling frame (the panel) may itself be biased because of the high refusal rate that occurs in recruiting panel members. In BIDDLE's opinion the consumers who become panel members appear to be more adventurous in trying new products, have greater brand awareness and be more interested in the outside world. Unfortunately there does not appear to be any published research, past or present, that confirms such concerns.

There are four important advantages of using an existing panel. The first is that extensive information on respondent household characteristics has already been collected thus eliminating the need to ask such questions,

The second advantage is that members of the panel are, because of their experience, generally quite skilled at following instructions correctly and are less likely to be confused by more complex response scales. Thirdly, they may also be able to recall their purchase behavior better because they are quite frequently asked to undertake such an exercise. Finally, the panel surveys are very economical on a per contact basis. Constructing a sampling frame from scratch and undertaking the field work for a single study would be much more expensive.

Two panel services, Home Testing Institute (H.T.I.) and National Family Opinion Inc. (N.F.O.) were asked to quote. They were both able to offer a standard representative panel of 5,000 households and in addition were able to create a custom panel of households who had recently changed their address. The lowest tender of \$2,100 was accepted. The final contractual arrangement required that the Home Testing Institute:

- (a) undertake an intensive screening of one of their standard representative panels of 5,000 households,
- (b) undertake a postcard screening of a custom panel of 5,000 households that had changed their address in the last year,
- (c) select a follow up sample based on the screening questions,
- (d) undertake a follow up four page questionnaire mailing to 500 households selected from the screening, and
- (e) undertake the data processing (including coding, editing, and supplying a punched, verified card deck.)

The Screening Phase - Locating Recent Appliance Purchasers

The Home Testing Institute offers a large-scale, low cost, national, mailing survey in which non-competing clients share the cost. It is called an intensive panel study and they are undertaken 12 times a year. Each client has a separate questionnaire which is printed on a punched card. The Institute is available for nationally balanced panels, in increments of 5,000 up to 40,000. U.S. Census Bureau reports and tapes are used to

establish the baseline with respect to geography, income, population density, age of household and family size. The Interview service is especially suited to screening and locating particular product users or shoppers. In this study, the screening question located households that had purchased one of the target appliances from a retail outlet in the last 12 months. This still left room on the card for a number of other questions identifying the household's inventory of home appliances, when these appliances were acquired, whether they were acquired new or used, how they were acquired and why they were purchased. A copy of the full Interview questionnaire is presented in Appendix C.

The double postcard screening of the custom panel asked a subset of the Interview questions. Space limitations precluded asking all of the supplementary questions. A copy of the double postcard questionnaire is also presented in Appendix E. The Interview and double postcard questionnaires were mailed on August 30, 1993. Table 5.1 highlights the various stages and response-rates of the survey research undertaken by the Home Testing Institute. The custom sample of recent owners was increased to 1,000 because H.T.I. did not have complete confidence in their address change records. The response rate for the screening surveys was expected to be around 75%. It was in fact higher for the custom panel (84%) but significantly lower for the Interview panel (44%). This was entirely attributed to the demanding nature of the screening questionnaires. It has to be admitted that access to such a large sample of households seemed too good to miss and in hindsight too many questions were asked in too little space. The lower response-rate resulted in an unexpected shortfall in target respondents. This was remedied by initiating, as already explained, recent buyers of freezers, dryers and microwaves ovens.

Table 5.1

Home Testing Institute survey research



The follow-up questionnaire was mailed to 834 panel households at the end of November and survey acceptance closed on December 30, 1976. The gross response-rate was 82% but this was reduced to a net, or effective, response-rate of 54% after editing and coding. Significantly incomplete questionnaires were discarded. Such judgments were made by R.T.I. staff. Given the length of the questionnaire the expected response rate based on the panel researchers' experience was around 65-70%. This suggests that the market research company underestimated respondent interest in the 1976.

After an initial problem with tape incompatibility between the R.T.I. and the University of Florida computer, the data was received on 80 column punched cards. A editing program was written to extract the demographic characteristics of the respondents off the screening files supplied by R.T.I.. The final database for the follow-up survey was re punched on cards and transferred on to the University of Melbore's Digital PDP 11-70. An editing program was written which created a set of new variables by collapsing and transforming some of the original measures. The coding index for this new data-base is presented in Appendix E.

Sample Representativeness

The demographic characteristics of the four samples were examined to check on their representativeness. Age, income, education and race of household profiles of the four samples and the U.S. population are presented in table 5.2. The follow-up samples were made up of the appliance purchasers who responded to the questionnaire. It was hoped that the two screening sample profiles would not deviate very much from the Census percentages. They did not. The profiles of the recent buyers were also quite close to the Census estimates. The follow-up samples were more up-scale on income and education. The follow-up sample of recent movers also slightly overrepresented large households and under-

represented the elderly. Such differences were to be expected however, as there was no reason to assume that recent appliance purchasers should have demographic characteristics identical to the United States population at large.

The questionnaire

The final version of the questionnaire that emerged from the pre-testing and evaluation was four, legal-sized pages in length. A small type-face combined with special layout and question construction considerably increased its effective size. The questionnaire was constructed section by section and the ingredients of each of these sections are summarized in Table 6.3. The order of presentation of the section and items in the questionnaire was arranged so as to assist the recall process. (i.e., the questions on product choice and purchase outcome followed questions on shopping activity) and to minimize suggestive question sequences (i.e., the attitudinal and attitudinal measures followed rather than preceded search behavior questions). The actual instrument with its covering letter is presented in Appendix B. Moments such as the size of household, household income, age and education of the homemaker were not needed in these and other household or respondent characteristics were available as part of the panel data base. Each section of the questionnaire is detailed in the following paragraphs.

Qualifying, Circumstance and Experience Subunits

In the first question (B-1) subjects were asked to name the appliance they had most recently purchased. If more than one was purchased at the same time, subjects were asked to nominate the more expensive appliance. It was then explained to the respondents that this purchase was the subject of all further questions. The only ambiguity that arose was where a few

Table B-3
Questionnaire sections

1. Goal trying, circumstances and experience questions
 - Anytime purchased
 - Primary business when was started
 - When purchased
 - Reason circumstances
 - Previous business experience
 - Reason selling experience
 - Spoke first in meeting
2. Search circumstances questions
 - Recognized purchase time pressure
 - Not buying with local stores
3. Shopping and search behavior questions
 - Time location time
 - Shopping time
 - Stores visited
 - Stores contacted
 - Stores found useful
4. Search and location questions
 - Wanted to learn
 - Wanted to enjoy shopping
 - Wanted to reduce search time
 - Wanted to obtain a price savings
 - Wanted best brand of merchandise available
5. Decision strategy questions
 - Relied on own experience
 - Relied on the information
 - Relied on others' advice
6. Purchase characteristics questions
 - Good features profitable
 - Good brand and good performance
 - More choice variety
 - Good brand and good to choose
 - More choice to buy
7. Product choice questions
 - Number of brands considered
 - Wanted brand or model brand less expensive
 - Brand loyalty
 - Purchased on sale or at a special price
8. Purchase and search outcome questions
 - Spoke for shopping search
 - Wanted cheaper subject the shopping
 - Not purchased purchased to

subjects indicated a washer and a dryer were purchased at the same time. These subjects were categorized separately.

The second question (Q.2.) sought to identify who played the primary role in the purchase. This purchase participation measure was required to ensure that the most appropriate person in the household completed the questionnaire. It is not clear whether all earlier studies attempted to ensure that this occurred. As the questionnaire was initially directed at the female head of household (designated the 'housewife') the question asked her to have her partner complete the questionnaire if he did most of the shopping and made the choice. It was decided that if the decision and shopping was adjudged by the housewife to have been joint then she should complete the questionnaire. This question presented some problems. It asked who had undertaken the shopping and made the choice. If the question had only focused on making the choice, then it was expected that many more subjects would indicate the decision was made jointly. They represent households where the husband did some of the shopping but was involved in the decision making, perhaps in setting the budget limits or exercising a veto. To handle this a special category was created for the housewives who did most of the shopping and made the choice but who wanted to acknowledge that other members of the household had a say in the decision. Other household members included the spouse, other adults and children (e.g., children requesting refrigerator features such as an ice-maker or drink dispenser).

The third question (Q.3.) determined the number of months since the purchase was made. This was included to check whether time since purchase had any impact on the recalled behavior and attitudinal measures. It did not. The white appliance buyers were divided into two groups, those who purchased their appliance in the last 6 to 12 months and the group who had

purchased their appliance over six months before responding to the survey. There was no significant difference ($p < 0.10$) between the groups on the reported number of stores shopped, number of brands considered and number of types of sources consulted. The shopping time, purchase consideration times and use of different types of information sources were also similar. The two groups also had similar mean scores on the uncertainty and motivational measures.

The Purchasing Circumstance Questions

The fourth and crucial question (Q4) identified the reasons for making the purchase. The first section asked the buyer to choose one of the following statements that best described their situation:

- a. Purchase was made as a result of a residential move
- a. My currently owned appliance was working but in need of some repairs
- a. My currently owned appliance was working well
- a. I was setting up house for the first time
- a. My currently owned appliance had failed and was not worth repairing.

These options were generated from the focus group discussions and pre-testing. They are not necessarily mutually exclusive in that appliance failure and a residential move may have occurred at the same time. If this occurred, it was expected that the buyer would choose the dominant reason (i.e., product failure). The above statements were labelled "situations" because they either represented a situation where the buyer had recently moved, a situation where the currently owned appliance had ceased to operate or was in need of repair, or a situation where the current alternative was working well. If none of these situations adequately described the circumstances that triggered the purchase process, respondents were asked to describe their circumstances in their own words. Six of the buyers reported they replaced their appliance because of flood or fire and 15 indicated they received the appliance as

a gift (14 of these were microwave ovens). The group of "other" responses that could not be categorized under any of the headings was made up of 20 microwave oven buyers who indicated that they basically wanted the oven for its convenience and that it was a first-time purchase.

The second part of the question was only answered by the buyers who had made the purchase because of a residential move. They indicated how far they had moved, in miles. This allowed the splitting up of the residential movers into a group of 56 who moved over 20 miles and a group of 113 who moved less than 20 miles. It was not anticipated beforehand that so many of the residential moves would be of a local nature.

The third part of the question was directed at only those buyers replacing a still operating appliance. It sought to have them nominate the one most important reason for making the replacement purchase. The list of reasons was compiled from the suggestions of the sales associates, company market researchers and focus group participants.

The next three questions (Q.6, Q.7 and Q.8) measured previous product shopping experience, recent moving experience and the number of years in residence in the locality. Shopping experience was limited to those purchases made from retail stores and excluded used appliances. A measure of previous retail shopping experience was preferred to a measure of previous purchase experience which includes non-shopping modes of acquisition.

Perception of Shopping Circumstances

Two questions (Q.9 and Q.10) were directed at identifying the perceived time pressure on the buyer to effect a quick purchase and the buyers' familiarity with local appliance stores. The first question used a five point Likert-type scale ranging from "No time pressure" to "Extreme time pressure". The question addressing the shoppers' familiarity with

Total stores asked the subjects to indicate the number of stores selling appliances they were familiar with before starting their shopping. This included all types of stores selling appliances rather than just the locally owned, specialty appliance stores.

Synthesizing Research

A number of information search theories have hypothesized that the basic purpose of the search and shopping activity of shoppers is to reduce uncertainty about which choice is the best buy to a tolerable level (Garlyns 1962, Raman 1972, Nelson 1966, Howard and Sheth 1969).

The literature provided little direction as to how to measure the extent of uncertainty existing in the mind of the buyer prior to shopping. The objective was not to measure the buyer's general self-confidence in her ability to make the decision but to measure how sure the buyer was about different aspects of the decision. Did she know what features were available before shopping? Did she know about the performance characteristics of the different brands and models? Had she decided beforehand what were the most important considerations (e.g., size, price) in making the choice? Most importantly how sure beforehand was she about what brand and model to choose and where to shop? These different uncertainties were measured on a seven point scale ranging from "very sure" through to "very unsure" (0-27-3).

Search Motivation-Interest Questions

Other search motivations such as curiosity and efficiency have been offered as explanations for search behavior (Garlyns 1962, Farber 1967, White 1966). These may, at times, increase rather than reduce choice uncertainty by complicating the decision. A thorough examination of these motivations was beyond the scope and means of this research. However, the above literature was used as a basis for probing the goals of

the recent shoppers, in the focus interviews. This led to the following

list of shopping and search goals and interests:

- to get the purchase made as quickly as possible
- to learn new things about clothes washing (curiosity)
- interest in technical details (curiosity)
- to find out what might be wrong or go wrong with appliance models looked at (reduce risk)
- to enjoy the shopping for its own sake (curiosity)
- to obtain the most modern technology in the new appliance (reduce risk)
- to obtain a real sense of personal satisfaction and achievement from personally solving the decision (efficacy)

The above goals were phrased so as to be understood by the subjects the initial list of search goals that was compiled from the literature had to be considerably modified in their wording because the subjects in the focus groups did not easily relate to, or even understand, terms such as curiosity and efficacy. The speculated search motivations associated with each of the above statements are stated in brackets.

Two approaches were taken to operationalizing the search motivations of the subjects. The first (Q.14) involved the use of a seven-point, agreement-disagreement scale applied to six of the above statements describing a search interest or desire. The measure of interest in obtaining a real sense of personal satisfaction was dropped from the survey research questionnaire primarily because subjects in the pre-testing considered it a foolish question as buying an appliance was not regarded as a major achievement, which would guarantee a lot of personal satisfaction from its attainment.

The second approach attempted to capture the dominance of one of the above motivations or goals over another (Q.14 and Q.15). The buyer was asked whether learning and enjoyment dominated the desire to get the shopping over and done with quickly or vice-versa. These motivation-interest statements were related to the product, person and situation

measures that were, *a priori*, believed to influence search behavior. In turn the motivational measures were treated as intervening variables and related to the reported behavior measures.

Perceived Brand Differences

It was believed that if the subject perceived all of the brands to be very much the same then this would not motivate very much shopping or search. On the other hand if the subject believed that brands were very different then this would be a good reason for undertaking search and shopping, to identify and purchase the superior brand. A four-point difference scale was used to measure the perceived difference between brands on price, features, style, durability, operating costs and finally on an overall basis (Q.M.). It should be noted that this question asked the subjects to report their perceptions at the time they completed the questionnaire and not prior to their shopping. This has two ramifications. The direction of the causal link between these perceptions and actual behavior was rendered very ambiguous, which was unfortunate. On the other hand the percentage of subjects who indicated they did not know what differences existed provided an indirect measure of the extent to which the dimensions were considered by the buyers in making their choice.

Decision-Making Strategy

The evidence from past research presented in Chapter Three suggested that while some shoppers undertake quite extensive external information search a good proportion of buyers rely on their knowledge and judgments based on their past shopping and usage experience. Rather than just infer that this occurs from their reported behavior it was decided to ask the buyers directly whether they relied mostly on their past experience and knowledge to make their choice or whether they either relied on the new information they obtained or other people's advice to make the choice.

(Q.25, Q.26). It was expected that a buyer might use a combination of past experience, new information or other people's advice to make her choice so in addition to forcing a choice, questions were asked that required the buyer to agree or disagree with statements indicating that each of these three approaches were employed (Q.26).

Reported Shopping and Search Behavior Questions

Three questions (Q.7, Q.20, Q.27) sought to identify the consideration-time, actual shopping-time and planned shopping-time. The question measuring consideration-time was very similar to those asked in previous major studies, the time period being from the time first consideration was given to purchasing a new appliance to the time that the purchase was actually made. Six time categories were presented ranging from "yesterday" to "over six months". For some analysis purposes this measure was transformed into an interval scale by taking the mid-point of each category [see Bowman and Stead 1971]. The pivot point for the upper category was chosen as 275 days (approximately nine months).

To distinguish between 'consideration' time and actual 'shopping' time, respondents were asked to estimate the total time spent by herself or other members of the household on shopping, including travelling time to and from the stores (Q.21). A further question asked whether the shopper had allocated a particular amount of time for her appliance shopping and, if so, how much time (Q.22). Two further related questions asked when most of the shopping was undertaken (Q.18) and whether taking care of young children had reduced the shopping activity (Q.23).

A series of questions measured prior preference to shop at one particular store (Q.14), the total number of stores shopped (Q.15), the type of stores visited, the type of stores planned, the type of stores

visited first, the type of store where the purchase was made (Q.10) and finally whether the purchase was made at the first store visited (Q.11).

The extent of other search behavior and the evaluation of sources of information were measured by a series of questions that identified: the number of newspaper sales and news letters using the purchase (Q.12), whether any magazine ads were read (more than just noticed or glanced at) before making the purchase (Q.13), the information sources that were actually consulted, the information sources that were found useful, the information source that was consulted first, and the information source that was found to be most useful (Q.14).

Purchase Behavior

This section of the questionnaire attempted to measure some of the dimensions of the purchase behavior. First of all subjects were asked to state how many different brands they considered before making their purchase. In two previous studies (Kassar and Brasel 1985, Chandon, Fry and Fortis 1986) the open-mindedness at the start of shopping toward considering different brands was measured on an ordinal scale. Subjects were asked whether they considered only one brand, a few brands or they had an "open-ended" or made a "wide-open" choice.

Rather than measure open-mindedness at the start of the shopping process, the number of different brands considered during the purchase process was measured in this study. This then became one measure of the scope of the search and shopping. It was believed that subjects would be able to recall whether they had considered only one or two, however it was accepted that they would only have been able to provide an estimate if they considered more than two. Such inaccuracy was judged to be an acceptable cost of obtaining the advantages of an interval rather than ordinal measurement scale.

The buyers were then asked whether the brand and model purchased was the same as they had initially thought they would buy at the outset of their search (Q.23, Q.30). These questions revealed whether the shopping and search activity had changed purchase intentions. A brand loyalty question followed (Q.21) and finally two questions asked whether the purchase was made on sale (Q.31) or at a specially negotiated lower price (Q.32). Previous research has not addressed the relationship between shopping effort and purchasing at a reduced price. It was decided to make a distinction between shoppers who purchased a sale item and shoppers who more aggressively sought a lower price that had not been advertised or offered from the outset by the retailer.

Purchase and Search Outcome Questions

Two reasons why shopping ceased and the purchase was made emerged from the preliminary research. The first reason why shopping ceased was that an appliance was found that was exactly what was wanted. This suggests that the first appliance that met all the necessary pre-requisites was chosen. The second reason for terminating the search was that on a cost/benefit basis further marginal effort was judged to be not worthwhile. Economic utility theory argues that this is the reason for the termination of all shopping and search. It assumes an optimizing goal achieved by shopping until the marginal cost equals the marginal gain. Subjects were required to choose which was the dominant reason for ending the shopping process and making the purchase (Q.33). Finally, two questions asked for each subject's hindsight evaluation of the shopping activity and their purchase. The buyers indicated whether they disagreed or agreed with the statement that they found the search and shopping activity a pleasant experience (Q.34). The very last question (Q.35) sought to measure, on a five point scale, how satisfied they were with their purchase.

Very late in the development of the questionnaire it was decided to exclude a number of questions. This was undertaken at the recommendation of the H.T.I. survey researchers who predicted a very low response-rate because of the instrument's cluttered and confusing appearance. At the time, the questions excluded were considered to be of lower priority than the ones retained. In the interests of future research these questions are presented in Appendix E. The major omission was a question seeking to have the subjects identify the characteristics of the most useful source of information. Other questions omitted identified the important characteristics considered in making the purchase and sought further information on the use of a friend or relative and the use of a catalog.

Analysis

The following analytical techniques were used to describe and explore relationships between the measures: simple descriptive statistical analysis, one-tail analysis, log-linear model fitting to multi-way frequency tables, block clustering analysis, principal components factor analysis with varimax rotation, Hotelling's T tests, step-wise discriminant analysis, step-wise multiple regression analysis and canonical correlation. The measures ranged from nominal through to ratio scales and this partially explains the variety of analytical techniques applied. Other reasons for the range of techniques used were a desire to reduce large numbers of measures down to a simple structure and a concern that the influence of other variables should be controlled in studying relationships between hypothesized determinants and the supposed dependent variable.

The SPSS-37 Statistical Computer Program were used to undertake the above analyses (Dunn and Brown 1977). Regrettably MCA (Multiple Classification Analysis) and AID (Automatic Interaction Detection) were not available. These analytical techniques are part of the SPSS/PC package,

a briefly integrated data processing system that currently cannot be supported on the computers available at the University of Minnesota. OSIRIS was also not available on the University of Florida computer network.

CHAPTER 118 DESCRIPTIVE FINDINGS OF THE TWO SURVEYS

Introduction

This is the first of a quartet of chapters that present the survey research findings. Its major objective is to contrast the differences in attitudes and behavior of the 411 recent buyers belonging to the standard Internet panel and the 111 recent buyers belonging to the custom panel of recent owners. The focus of interest was whether the buyers who had recently moved exhibited unique search, shopping and buying behavior. If they did, the next critical question was whether these differences suggested opportunities for special marketing campaigns directed at the recent owner.

The presentation of this descriptive analysis should be used in the context of the following conversion chapters. Chapter Seven examines the inter-relationships between sets of measures of prior purchase uncertainty, motivations, perceived brand differences, and search and shopping steps. Factor analysis was used to reduce these variables down to some basic constructs and helpfully simplify the interpretation of results. The next chapter looks at evidence supporting, or not supporting the relationships suggested by the hypotheses presented in Chapter Four. Chapter Nine is devoted to segmenting the shopping behavior of the buyers of microwave ovens with the behavior of the white appliance buyers. The responses of the 111 oven buyers have been excluded from all of the earlier analysis.

The following descriptive findings are divided into a number of distinct sections. These sections are based on the theoretical framework presented in Figure 4.1. The background circumstances, past

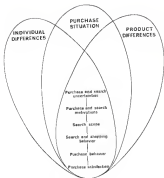


Figure 6.1 The Interactionist model

experience and decision participation are first described. This section includes the buyer's perceptions of time-pressure and familiarity with local stores. The next two sections describe their uncertainty at the onset of the purchase process and their search and shopping interests and motivations. A description of their use of various information sources and their reported shopping behavior follows. The final section describes whether they purchased the brand and model they initially intended, the extent of brand loyalty, whether they purchased at a sale price, why they stopped shopping and made a purchase, and post purchase satisfaction.

Results

Products, Circumstances, Experience and Participation

Approximately 60% of the buyers purchased a refrigerator or freezer, the remainder purchased a washer dryer dryer (see table 4.1). The relative dominance of refrigerator purchases was significantly higher in the recent owners' survey sample. Over half of the recent owners had purchased a refrigerator. The Bureau of the Census data also indicated that recent owners are more likely to purchase a refrigerator than a washer (Bureau and AFSA 1991). In addition, the response rate of the buyers of refrigerators and freezers was higher than the response rate of the buyers of washers and dryers in both survey samples (70% compared with 60% for the instant sample and 78% compared with 60% for the custom sample). A major reason for the higher response rate for refrigerators was that those buyers who purchased both types of appliances in the last 12 months were asked to describe the more expensive appliance purchase.

The average time since purchase was around seven months, a little less for the standard, instant sample and about a month more for the custom, recent-owner sample. Half of this lag was the right to ten weeks between the screening and completion of the follow-up questionnaire.

Table 6.1
Products purchased and months since purchased.

Sample	Products Purchased				
	Refrigerator	Freezer	Washer	Dryer	Washer and Dryer
Standard	40.00	14.00	50.00	11.00	3.00
Custom	53.0	9.0	39.4	6.6	4.0
CustomT1	48.0	10.0	29.0	10.0	3.0

($\alpha = 0.05$)

Months since purchase

Sample	Mean	S.D.
Standard	6.8	3.5
Custom	8.1	3.8

($\alpha = 0.000$)

Table 4.3

Purchase attributes

Sample	Setting up first time	Short distance move	Long distance move	Followed	Replaced working repair	Replaced working unit	Other
Standard	1.55	11.10	4.42	26.65	25.88	54.45	8.75
Citizen	5.8	42.5	25.7	5.9	7.8	4.4	5.3
General	3.4	18.3	9.9	28.3	18.7	12.1	3.4

(n) = 600

The most important replacement reason for owners of an operating appliance.^a

	5
To avoid future repair costs	44.4
Needed a larger appliance	21.8
Wanted new features	14.4
Wanted a new style	1.0
Revolving kitchen or laundry closet	5.1
Other	13.4
	100%

^a This includes appliances still operating but in need of some repair

Members of the RTI panel who change their addresses, often take a month or so to notify the research company. As a consequence very recent movers were under-sampled in the current sample. This explains the time-since-purchase disparity.

As expected, there were dramatic differences in the shopping situations between the two samples. Some 30% of the purchases made by the recent mover sample were acknowledged to have been necessitated by the recent move. The residential move situation was divided into a short distance move (distance between the old and new residence less than 20 miles) and long distance move (distance between the old and new residence 20 miles or more). Overall, the short distance movers outnumbered the long distance movers by two to one. The buyers settling up house for the first time were also moving their residence to forming the new household and in that sense made up a third residential mover category (see Table 8.2).

An unexpectedly small percentage of the buyers replaced a currently owned appliance that was working well. Part of the myth of the great American spending machine is that perfectly good appliances are "thrown away" to be replaced by the new trendy style. An examination of the major reasons for replacing a still operating appliance indicated that concerns over future operating problems and the cost of such repairs was paramount. The two major reasons for upgrading to a new appliance were because the current appliance was too small or because the current appliance did not have the desired features. Less than one in 50 of the purchases were stated to have been made primarily because of style or appearance reasons.

The majority of the "other" purchase situation categories were buyers (mostly of dryers) who had not previously owned such an appliance but who were not setting up house for the first time. Four refrigerators and one dryer were purchased because the previous one had been destroyed by fire or flood. Only one buyer volunteered that the appliance (a dryer) had been purchased as a gift for his wife.

A very high proportion of the buyers had lived more than four years in their current locality (see Table 4.3). The average length of residence in the local area for the Standard survey was 14 years, for the recent owner survey, it was 12 years. The latter was an unexpectedly high figure, even though it was significantly shorter than the standard sample. It is, however, consistent with the evidence that a majority of the moves made by the owner sample were of a local nature, rather than out of town or even farther afield. From the statistics it appears that at most, only some 30% of the recent movers had shifted to a new locality. Consequently, most of the residential owners, when faced with the need to replace an appliance, had old friends that they could consult and familiar stores in which they could shop.

The purchase choice and shopping for refrigeration and laundry appliance was made, jointly, by husband and wife over 50% of the time, (see Table 4.3). In another 77% of the purchases there was some participation by the husband and other household members although the housewife played the primary role. In only about one in four of the purchases did the housewife decide and shop on her own. At the other extreme less than 10% of the purchases were made by the sole head of the household. A recent residential move did not appear to affect the decision and shopping participation of the husband or other members of the family.

Table 8.3

Previous shopping experiences, years lived in locality and household purchase participation

Years lived in local area, before starting shopping								
Survey	Under a Year	1 Year	2 Year	3 Year	4 Year	5 Year Plus	Mean	S.D.
Standard	8.3	4.2	3.7	3.3	3.9	14.3	14.12	13.59
Custom	26.3	4.4	3.3	2.4	0.7	48.3	12.04	13.14
Overall	13.3	4.3	3.4	2.7	2.1	73.3		

nd, $p < 0.0000$ for $p = 0.002$

Household participation in shopping and delivery

	Only Home Member	Some participation	Joint Effort	Mostly Spouse
Survey				
Standard	29.0	11.3	52.0	7.8
Custom	26.3	11.3	57.0	4.6
Overall	26.4	11.3	53.3	7.0

Number previously purchased at retail store

Survey	None	One	Two	Three	Four	Five Plus	Mean	S.D.
Standard	29.10	30.25	16.40	9.70	3.35	3.05	1.29	1.57
Custom	33.2	30.3	21.4	6.6	4.0	2.6	1.35	1.37

Table 6.4

Perceived purchase time-pressure and store familiarity

<u>Actual time-pressure 30 min. before purchase</u>					
Survey	None	Slight	Moderate	Great	Extreme
Standard	25.85	25.85	28.40	19.25	10.65
Custom	28.2	29.4	22.7	8.8	5.3
Overall	26.2	22.1	25.6	14.1	8.7

Sig. $p = 0.2422$

<u>Time between first consideration and actual purchase</u>						
Sample	Same day	Less than a week	1 - 4 weeks	5 - 12 weeks	3 - 6 months	Over 6 months
Standard	8.45	29.75	25.25	12.25	11.45	12.85
Custom	4.6	17.1	40.8	14.9	14.0	8.6
Overall	7.6	22.0	26.8	13.6	12.2	11.7

Sig. $p = 0.0028$

number of stores visiting appliances in local area

that buyer was familiar with before starting to shop

Survey	None	One	Two	Three	Four plus
Standard	4.05	5.85	9.95	11.35	21.95
Custom	11.0	4.0	9.0	13.0	61.0
Overall	6.0	3.3	9.0	12.0	60.1

Sig. $p = 0.0045$

Most two-thirds of the buyers had some past shopping experience (see Table 4.2). Given the average marital life of white appliances, it is understandable that only 15% of the respondents had purchased three or more in the past. The majority had only made one or two previous purchases of such an appliance at a retail store. The custom, recent-over sample had much the same purchase experience profile as the standard sample.

Close to one out of every five purchase was made under great or extreme pressure, two out of five were made under at least moderate pressure, and three out of five were made under some time-pressure. The remaining 30% made their purchase under no time-pressure at all (see Table 4.4). Given the higher proportion of failure-forced replacement purchases it was somewhat of a surprise that the standard sample buyers did not report greater time-pressure. The difference was in the expected direction, but not statistically significant. One explanation is that a sizeable number of the purchases arising from a replacement were also made under time-pressure and this compensated for the very low number of failure-forced purchases made by the recent-over sample.

About 85% of the buyers took less than a week to make the purchase. In the other end of the scale, in only one out of eight purchases did the household spend over six months between initially considering making a purchase and finally buying. The standard panel had a higher incidence of more extreme consideration times, reflecting perhaps its higher percentage of traffic-in purchases as well as failure-forced purchases.

The great majority of the buyers from both samples were familiar with at least four local stores. This high familiarity suggests that very little of the search and shopping activity of white appliance buyers was directed at establishing a store's offering and reputation. The custom sample of recent buyers was less familiar with the local stores selling appliances, the major difference being in the number of buyers who were not familiar with any local stores at the start of their shopping Purchase Uncertainty.

The buyers indicated that not a lot of decision uncertainty existed before they started shopping. In average they declared that they had been moderately sure about the features that were available, the important choice criteria and where to shop. They were only slightly less sure about the performance of different brands and models and which brand and model they should choose (see Table 4.8). If information search is undertaken to reduce choice uncertainty then the responses to these scales suggest that there was little need for the buyers to do a lot of shopping or search. It should, however, be noted that the question asked the subjects to recall their uncertainty at the start of their shopping. In some cases, buyer uncertainty may have increased during the shopping process as a result of exposure to new information and consequently may not have been at a maximum before the shopping started. Post-purchase reporting may also underestimate initial uncertainty.

There was no difference between the two samples on the vector of six uncertainty judgments. At the univariate test level the only measure in which the samples differed significantly was uncertainty about where to shop ($p < 0.05$). As might be expected, the recent buyers were less sure about where to shop. Examination of the table shows this difference was not great. The recent buyers were also marginally less certain about what brand and model to choose.

Table 8.4

Prior uncertainty about offerings and intentions

Thinking back to when you started seeking information and shopping for your new appliances, how sure were you about

σ = Standard sample

λ = Custom sample

The features that were available



The performance of the different brands and models



The most important considerations you were going to use to make your choice



What brand to choose



What model to choose



Which stores to shop at^a



Refrigerator, $\sigma^2 = 0.07$,

Refrigerator, $\sigma^2 = 0.03$,

$\sigma_{\lambda, \lambda\lambda} = 1.15$, $\sigma = 0.308$

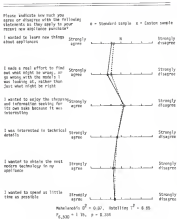
$\sigma = 0.06$

Survey Instruments and Methodology

The average reaction of the samples to the statements reflecting various shopping interests and motivations was concordant. They neither agreed nor disagreed with the statements. The strongest, average reaction was a qualified agreement that a real effort had been made to find out what might be wrong or go wrong with the store's layout, rather than just what might be right with the equipment (see Table 8.8). The least positive reaction was to the statement indicating they had wanted to enjoy the shopping and information seeking for not net sake, because it was interesting. However, these average scores do not tell the whole story, as there was considerable variability in the expressed motives and interests of the buyers. The standard deviations associated with the sample mean scores ranged between 1.5 and 1.8 on a scale of 8 units in length.

This variability was not explained by the buyers' membership in either the standard or recent mover sample. The profile or vector of means of the standard sample was not significantly different from the profile or vector of the means of the recent mover sample. The only measure that approached significance at the univariate level ($p = 0.061$) was agreement-disagreement with the statement that a real effort was made to identify operating problems. The standard sample was marginally more concerned about reducing or avoiding this risk. Six times as many of the standard sample purchases were failures forced compared with the recent mover sample. It is therefore surprising that the difference between the groups on this measure was not greater and even more surprising that the two groups did not significantly differ in their interest in speeding as much time as possible shopping for the equipment.

Table 4.6
Source: Interneta and extractions.



In the forced choice questions two interests dominated. About two-thirds of the subjects in both samples (87.8%) indicated that they were interested in learning "as much as possible" rather than learning "just enough". This indicated that, as information seekers, most had sought to maximize their learning rather than reach a satisfactory level of knowledge and certainty. On the other hand, a similar proportion (81.8%) (not the same buyers) indicated they were more interested in spending as little time as possible rather than enjoying the search for its own sake. Appliance shopping appears to have little inherently entertaining value for a large proportion of the shoppers. A higher proportion of the standard sample were more interested in effecting a quick purchase (48.8%) (reflecting the higher percentage of failure-forced replacements) but this difference was barely significant ($p = 0.08$). To summarize the results of the forced choice motivation questions, the majority of the white appliance buyers wanted to pack as much learning as possible into as short a period of time as possible.

It has already been explained that the perception of considerable inter-brand variability should act as a spur to shopping and information search. The market-based variability perceptions are presented in Table 4.7. The brands of appliances are perceived to vary most on price and durability and least on style. A striking similarity of the buyers expressed ignorance of inter-brand performance on the important choice criteria, durability and operating costs. A rather unexpected finding was that over half the buyers indicated they believed that brands varied in their operating cost performance. The perceived feature variability was also quite high. Although dominant, price is certainly not the only choice criteria on which the brands are perceived to vary. This suggests

Table 8.2
Perceived differences between brands

Characteristic	No. Responses	Don't know	Very little difference	Small difference	A lot of difference	A considerable difference
Price	2.05	7.95	8.75	15.45	25.55	15.45
Features	4.4	6.7	15.6	43.6	22.8	7.4
Style	3.9	7.8	27.1	35.4	12.7	3.9
Durability	3.2	16.8	12.4	27.4	25.2	15.9
Operating Costs	3.4	16.7	22.9	25.3	12.1	19.6
Overall	3.4	16.8	19.7	36.9	13.2	9.7

that new buyers were sensitive to more than just price in purchasing their appliances. The two samples shared very similar perceptions of the variability in price, features, style, durability and operating costs between brands. None of the chi-square tests was approached significance. Consequently, any differences in shopping and search behavior between the samples cannot be directly attributed to the samples' different views of the variability or variation in the offering.

Choice Strategy

The white appliance buyers relied more on their past experience and knowledge in making their choice than on other people's advice or on new information obtained from other sources. In the forced choice questions, 66.6% indicated they had relied more on their past experience rather than on any new information obtained, and almost as many (64.8%) indicated they had relied on their past experience rather than relied on someone else's advice. It appears, then, that only about one in every three of the buyers depended more on the shopping and search than on past experience to help them make the decision. The other purchasers had pretty much made up their minds what they wanted and how to obtain it, before they shopped.

The two samples of buyers did not reveal any differences in their strategies. They differed by one or two percentage points on the forced choice questions and Table 4-8 shows there was close agreement-disagreement with the three statements describing the different strategies. Again the deviations were around 1-3 indicating that the use of the various search strategies varied across the buyers within the samples. The buyers' responses to these agreement-disagreement scales suggest that

Table 4.8

Choice strategy

 x = Standard sample x = Custom sample

I mostly relied on my past experience and knowledge to make my choice

Strongly agree

1 2 3 4 5

Strongly disagree

I relied on people who knew more about appliances than I did, to give me advice as to what to buy.

Strongly agree

1 2 3 4 5

Strongly disagree

I mostly relied on the new information I obtained in my shopping and information search to make my choice

Strongly agree

1 2 3 4 5

Strongly disagree

Reliability $\alpha^2 = 0.92$, Squaring $r^2 = 0.81$

$r_{\text{standard}} = 0.83$, $r = 0.90$

they do not adopt an exclusive choice strategy. While the forced choice question revealed the dominance of one approach over another, it is apparent that many buyers use a combination of approaches in making their purchase.

Use of Information Sources

The use of different information sources was not extensive. The average number of types of sources that buyers thought about consulting was 3.26 for the standard sample and 3.38 for the novel sample. It should be noted that the respondents were prompted with a list of nine different possible sources which may have encouraged some buyers to overstate the sources they thought about consulting or seeking out. On average 3.37 different sources were actually consulted by the standard sample and 3.53 were actually consulted by the novel sample. The above statistics do not suggest a search decision process where the buyer carefully considered all possible types of information sources and then, before or during the purchase process decided not to consult a large number of them on the basis of some type of cost-benefit criterion. Rather the results suggest that only a few information sources came to mind and were considered. Those that did were mostly consulted.

The use of particular types of information sources by the two samples is presented in Table 4.9. The results were confirmed as the reported use of the newspaper was the only measure in which the samples significantly differed and that result is presented in Table 4.10.

The relatively strong performance of the newspaper as an information source, in its own sense, is surprising. Prior research presented in Chapter Three did not suggest that this source would be so dominant. On the other hand an unexpectedly low percentage of buyers

Table E.5

[Information sources considered, consulted and found useful]

Information source	Percentage of buyers who		
	Thought about consulting source	Actually consulted source	Found the source useful ^a
Appliance salesperson	60%	50%	40%
Newspaper ad	50%	41%	30%
Friend or relative	43%	30%	31%
Catalog	40%	35%	28%
Manufacturers' brochures and letters	33%	28%	25%
Consumer Reports article	32%	23%	18%
Paperline ad	32%	22%	8%
T.V. ad	18%	9%	5%
Appliance repeman	15%	12%	8%

- ^a The actual question read: "Listed below are various sources from which you or your household could obtain information about the new appliance purchased. . . Please check all sources you thought about consulting (checking). Please check all sources you actually did consult (look out). Please check all sources you found useful."

thought about consulting a salesperson given that the great majority knew that would have to deal with such a person. This suggests that perhaps a significant minority of buyers use the salesperson as purely an exchange agent rather than as a source of advice and information. Another possibility is that some buyers assumed that they would not have to seek out and actively initiate consultation with an appliance salesperson. These respondents may unconsciously have indicated they did not think about consulting or actually consult a salesperson even though they obtained information and advice from such a source. If this is true then the results in Table 4.3 underestimate the role of the salesperson. The role of newspaper advertising is definitely underestimated as Table 4.12 shows that 50% of the buyers read at least one newspaper advertisement before making the purchase, even though only 41% stated they consulted such a source. This missing 9% are presumably buyers who did not seek out an advertisement but were exposed to one and in the sense that they stumbled on one before purchasing. However, even with the addition of this group the reported use of newspaper advertising was unexpectedly low given the apparent amount of advertising by appliance retailers.

The catalog is the next most frequently consulted informant, commercial source and brochure and Table's are third with only a little over a quarter of the buyers indicating they consulted this source of information. Magazine advertising and T.V. advertising were considered as possible sources to be consulted by only one in five of the buyers and of these only about half actually consulted such ads. Again the exposure as opposed to the seeking out of magazine advertising was higher. A little over a quarter of the buyers (26%) indicated they had read (more

Table 4.16
Sources used by sample

Sample	Number of Newspaper Ads Read				
	None	1	2 - 4	5 - 9	10+
Standard	90.85	4.55	38.80	7.45	4.35
Custom	46.7	7.2	20.7	15.2	7.2
Overall	68.3	6.3	27.4	9.3	4.7

Use of A Rejection(s)

Sample	Not Considered	Considered	Consented	Postal Refusal
Standard	88.85	17.85	14.75	9.75
Custom	91.8	6.2	4.0	4.0

sig. $p = 0.008$

Use of Consumer Reports

Sample	Not Considered	Considered	Consented	Postal Refusal
Standard	70.25	29.65	20.75	18.65
Custom	61.8	38.2	21.0	19.7

sig. $p = 0.113$

then just noticed or glanced at) a negative advertisement. A newspaper is by far the least considered source of information and advice... The recent events were less inclined to consider and consult a magazine.

A friend or relative was actively consulted by only 40% of the buyers, but again this statistic may overstate their participation as friends or relatives may volunteer information and advice without being asked. About a third of the buyers thought about consulting Consumer Reports but only one in five claimed to eventually consult the magazine.

There were several ways of measuring the perceived usefulness of the sources. Table 4.1 indicated that the salesperson was rated a useful information source by half of the buyers, well ahead of the next source of information. When it came to the most useful source of information the salesperson's rating was outstanding (see Table 4.10). It was not just that 40% of the buyers considered salespeople the most useful source of information, but the extent of the margin of the preference. The next most carefully rated source was chosen by 13.2% of the buyers. It could of course be argued that such a result is not so surprising because a salesperson was much more frequently consulted than, say, Consumer Reports. The relative performance of the different types of sources on this measure depended on their frequency of consultation as well as their relative merit.

Another way of measuring the rated usefulness of the sources is to calculate what percentage of the buyers who actually consulted the source felt it provided useful advice and information. Consumer Reports (80%) and the brochures and labels (80%) scored highest on this criterion, closely followed by the salesperson (80%) and catalogs (80%). The poorest performer on this measure was the T.V. advertisement. Only 50% of those who 'consulted' a T.V. advertisement (whatever that means) found it useful...

Table 6.15

Sources contacted First and Found most useful

Source Contacted First			
Source	Standard Sample	Coslin Sample	Overall
Newspaper ad	19.15	21.45	19.75
Magazine ad	1.1	0.0	0.5
TV ad	0.0	0.0	0.0
Catalog	18.0	17.0	17.5
Brochures & Labels	8.0	8.0	8.0
Telephone	26.0	19.0*	22.5
Experiment	8.0	1.0*	4.5
Friend or relative	10.0	24.0*	17.0
Consumer Reports	0.0	0.0	0.0

Note: $p = 0.0001$

Source Found Most Useful			
Source	Standard Sample	Coslin Sample	Overall
Newspaper ad	12.0	9.0	11.5
Magazine ad	0.0	0.0	0.0
TV ad	0.0	1.0	0.5
Catalog	9.0	12.0	9.5
Brochures and labels	9.0	9.0	9.0
Telephone	40.0	28.0	34.0
Experiment	4.0	3.0	4.0
Friend or relative	12.0	14.0	13.0
Consumer Reports	0.0	10.0	5.0

Note: $p = 0.0071$

The percentage of actual source users who rated the source most useful were, for the different sources, salesperson 42%, Consumer Reports 36%, friend or relative 31%, brochures and labels 28%, catalog 22 and newspaper advertising 14%. That these statistics support is that encouraging more consumers to consult Consumer Reports or brochures and labels may not dramatically improve their decision making. Although those who do consult these sources find the information useful they are, in the opinion of the majority of the users, not the most useful source of information. As a further illustration, 36% of the buyers who consulted a friend or relative rated the salesperson the most useful source of information while 22% rated the friend or relative the most useful source of information. The same dominance of the salesperson as the most useful source occurred for those consulting a catalog and those consulting a newspaper advertisement. A significant percentage of the users of Consumer Reports and brochures and labels also rated the salesperson as the most useful source. If more buyers consulted a wider range of different sources than the salesperson's rating as the most useful source would probably decrease but the above figures indicate that the salesperson is still rated highly as an information source by buyers who do consult a variety of sources.

The recent owner sample did not more frequently consult a friend or relative but the owners did more frequently consult a friend or relative first (see Table 4 (1)), presumably to seek information and advice on where to shop. The standard sample more frequently consulted a salesperson or a merchant first.

Influence of the First Source

It was speculated that the type of source first consulted, (i.e., the first step taken in the information search process) might influence later information search. To examine this issue the consulting of other information sources was tabulated against the first source consulted (see Table 8.12). If the source first consulted was related to the consulting of the other information sources then the percentages in the columns of Table 8.12 should vary. Stable percentages in a column would indicate that the consulting of that source was not related to the source first consulted. It can be seen from the table that the consulting of other information sources was related to the source first consulted. For example, if a respondent was consulted first a buyer was less likely to consult a newspaper ad and Consumer Reports. The initial consulting of Consumer Reports was more likely to result in the consulting of newspaper advertising, brochures and labels, a repairman and a friend and relative. This is not to suggest that the source first consulted necessarily determines what other sources will be consulted, as other underlying variables may be determining both. It does appear, however, that the type of source first consulted is an interesting search measure as it is related to other information search activity.

Utilization of Sources Consulted

The average number of sources consulted and the incidences for each source do not provide the complete picture of the buyer's information seeking activity. In particular, they do not indicate what are the common combinations of information sources that are consulted. Table 8.13 and Table 8.14 provide this information. A quarter of the buyers consulted no personal source and about three out of ten consulted only a

Table 4.12

Source: First consulted and consulting of other sources

2 of buyers who consulted other types of sources							
Source: First consulted by buyer	99	CSA	B.B.L.	12	99	For 3	12
Newspaper ad		43.39	29.35	55.79	2.31	32.39	18.88
Catalog	45.2	34.7		49.7	4.3	39.3	13.9
Brochures and folders	45.2	11.9		47.5	15.4	33.5	23.9
Salesperson	39.1	79.9	29.1		4.9	39.5	12.9
Represent	19.2	24.2	15.2	49.7		39.3	21.2
Friend or relative	39.3	23.9	29.3	54.7	4.9		21.6
Consumer Experts	47.5	29.9	49.9	55.9	13.9	49.9	

n = 499

Table 8.13
Returns of use of personal information sources

Personal sources consulted	Standard deviation	Correct answers	Score (%)
Salasperson only	269	125	269
Friend or relative only	12	19	14
Requiem only	2	1	2
Salasperson and friend	30	20	30
Salasperson and requiem	4	1	4
Friend and requiem	1	0	1
Salasperson, friend or relative and requiem	6	1	4
No personal sources consulted	28	29	26
	1000	1000	1000

Table 4.14
Patterns of use of written information sources

Written sources consulted	Special needs	General needs	Overall
Newspaper only	118	178	123
Magazine ad only	0	0	0
Catalog only	8	9	8
Brochures and labels only	5	4	5
Consumer Reports only	3	4	3
Newspaper and catalog	6	7	6
All four commercial sources	2	1	2
All five written sources	2	3	3
None	23	26	26
55 other possible combinations	29	27	28
	1000	1000	1000

salesperson. The next most frequent combination was the consulting of a salesperson and a friend or relative. The major difference between the two samples was in the consulting of a friend or relative only and the consulting of all three personal sources. The custom, recent mover sample had a higher incidence of only consulting a friend or relative and the standard panel had a higher incidence of multiple consultation. With respect to the use of written sources, around 300 did not consult any and the biggest group were those who only consulted newspaper advertising, followed by those who only consulted a catalog. Magazine advertising was only consulted along with other written information sources. The custom, recent mover sample had a larger number of shoppers who only consulted a newspaper and the standard sample had a larger percentage that consulted no written source. Overall it can be seen from Table 4.14 that a large number of different combinations of sources were consulted.

Shopping Behavior

The average number of stores visited by buyers in the standard sample was 2.54 (s.d. 1.76) compared with 2.75 (s.d. 1.88) for the custom sample. Statistically this was not a significant difference. Table 4.15 identifies the percentage of buyers visiting, calling and shopping at various types of stores. The specialty appliance stores and Sears stores clearly dominate. They also have a visit to sale conversion ratio of over 80%. That is, 80% of the buyers who visit Sears end up purchasing their appliance from Sears. Department and discount stores are the next most frequently visited type of stores but they have a very poor sales conversion ratio. Radio and furniture stores have a higher market share than department and discount stores despite being shopped less frequently.

Table 4.14
Types of stores visited and placed

Type of Store	Percentage of Shoppers who visited	Percentage of Shoppers who placed	Type of Store visited First	Purchase Rate of
Appliance Store	44%	12%	12%	14%
Sears	34	3	30	31
Department Store	28	4	4	3
Discount Store	26	2	7	6
Wards	18	3	6	8
Furniture Store	17	3	5	4
Penney's	13	2	2	3
K Mart	10	1	2	1
Other type (hardware etc.)	11	2	2	4
No response			8	2

Source: p = 0.47 Re: p = 0.94

Specialty stores have almost twice as many phone calls made to them than any other type of store. The most noticeable difference in the store shopping of the two groups was that 34% of the recent mover, custom sample purchased their appliances from Sears (compared with 30% of the standard sample) and conversely 30% of the standard sample purchased from a specialty appliance store (compared with 32% for the custom sample). Otherwise the samples were within one or two percentage points of each other on all the measures and none of the differences were statistically significant.

Combinations of Stores Shopped

For most of the consumers appliance shopping is an interrupted series of store visits or phone calls. About 30% of the buyers visited only one store but the remaining 70% visited varying combinations or clusters of stores. Over 1,000 different shopping combinations of the nine different store types were available. To reduce a store shopping cluster analysis to manageable proportions only the four most frequently visited and shopped stores were considered. Table 4.16 presents the results. No one single store shopping combination dominated. The two largest groups were the buyers who only shopped at a specialty appliance store(s) or the buyers who only shopped at Sears. Only 1.3% of the buyers compared shopped at all four types of stores. The least frequent combination was the shopping of Sears, a department store and a discount store. The Sears-only and all-four-stores clusters were slightly larger for the custom, recent mover sample.

Over half of the buyers (55% of the standard sample and 50% of the custom sample) possessed a strong prior preference to shop at one particular store. It could not be determined, however, how many of these shoppers followed this preference through. What could be

Table 6.16
Block cluster analysis

Combinations of four major types of stores visited or placed	Percentage of sample in different clusters		
	Standard	Golden	Overall
<u>Cluster distributions</u>			
Appliances	19.05	20.45	19.65
Sears	16.6	20.4	17.6
Department	2.6	6.2	1.7
Discount	1.2	6.0	6.9
Appliances & Sears	13.4	16.5	15.8
Appliances & Department	2.5	3.6	3.9
Appliances & Discount	3.5	4.8	5.8
Sears & Department	3.0	4.4	3.4
Sears & Discount	3.0	2.6	2.7
Department & Discount	2.5	2.2	2.1
Appliances, Sears & Department	2.4	5.3	2.0
Appliances, Sears & Discount	6.0	4.4	5.6
Appliances, Department & Discount	2.0	3.3	3.1
Sears, Department & Discount	6.0	1.5	6.9
All four major types of stores	2.4	11.2	6.5
None of the major types of stores	2.4	4.4	2.5
	<u>100</u>	<u>100</u>	<u>100</u>

established was the percentage of buyers who, having stopped at a number of stores, returned and purchased at the first store visited. These percentages were:

Number of stores stopped	% of buyers who purchased at first store visited
Two	38.8%
Three	30.8
Four	27.2
Five	23.8
Six +	18.2

A shopper who visited two stores was more likely to buy at the second store visited but the odds were close to even for the first store stopped when three, four or five stores were stopped. The odds dropped again when six stores were visited.

Shopping Time

Given the generally limited number of stores and types of stores stopped, it was not surprising that a large proportion (48%) of the buyers spent less than two hours shopping for their appliances. This includes traveling time to and from stores. Only a little over a quarter spent more than half a day shopping (see Table 8.17). One out of ten shoppers indicated that the need to care for young children had restricted their comparison shopping. Half of the buyers did most of the shopping on a week day. The weekend was the next most popular time. Again there was no evidence that the recent movers sample spent more time shopping or shopped at a different time.

Table 4.17

Shopping time and timing

Sample	Actual Shopping Time			
	Less than 1 hour (2 hours)	2 - 4 hours	4 - 8 hours	8 hours or more
Standard	48.55	27.75	14.75	18.95
Custom	47.5	25.5	14.5	18.5
Overall	48.5	27.5	14.5	18.5

$$H_0: \mu = 0.5000$$

Sample	When most of the shopping was done		
	Week day	Week night	Weekend
Standard	49.55	25.55	24.95
Custom	47.5	25.5	24.5
Overall	48.5	25.5	24.5

$$H_0: \mu = 0.5000$$

Sears vs. Specialty Store

The head to head dominance of the specialty appliance store and Sears was considered worthy of further examination. Sears had a market share of 36% amongst those shopping only at one store but this slipped to 28% amongst those shopping more than one store. Multiple shopping trips Sears more than any other type of store. Put another way, Sears has more success than any other store at encouraging one store shopping. The specialty appliance stores' market share was consistent across numbers of stores shopped. Looking at the 34% of buyers who visited or called a specialty appliance store and who also visited or called Sears, 46% of them contacted Sears first, 35% contacted the specialty store first and the rest shopped at another type of store first. However, when it came to final purchase behavior, 33% of these comparison shoppers ended up purchasing at a specialty appliance store, 33% ended up purchasing at Sears and the remainder purchased elsewhere. The specialty store is doing marginally better in this comparison shopping sub-market.

The Shopping Matrix

The pattern of shopping was examined from another angle by the use of the brand-store shopping matrix (see Table 4.30). The common features of the two matrices are that the one brand-one store cell is clearly the largest and there is also a pattern of diagonal dominance. The implication was that Sears was slightly more store loyal. Around 81% of the buyers considered only one brand and shopped two or more stores looking for it. On the other hand, about 10% of the buyers shopped at only one store but purchased two or more brands. Overall, the buyers did not show a strong predisposition to be either brand or store loyal to

Table B.18
Sample Shopping Patterns

The Standard Sample: Percentages of the total frequency

Number of brands considered	Number of Stores Shopped					Sub-total
	One	Two	Three	Four	Five plus	
One	21.5	0.8	1.2	0.8	0.7	25.0
Two	4.1	12.4	8.4	1.4	0.5	26.8
Three	2.1	5.4	10.3	8.4	1.3	27.5
Four	1.4	2.3	1.8	4.2	2.7	12.4
Five plus	0.2	0.2	0.2	1.2	1.8	3.6
Sub-total	31.3	19.7	20.3	13.4	10.3	100

The Custom Sample: Percentages of the total frequency

Number of brands considered	Number of Stores Shopped					Sub-total
	One	Two	Three	Four	Five plus	
One	25.7	2.0	2.8	1.3	0.2	31.9
Two	7.3	11.4	5.8	2.8	2.4	30.3
Three	3.4	8.4	9.9	2.4	2.4	26.3
Four	0.7	0.7	1.3	4.3	5.3	12.3
Five plus	0.4	0.0	0.0	2.0	2.4	4.8
Sub-total	37.5	24.1	19.1	13.8	12.4	100

their reported behavior. This set of ten buyers considered two or more brands and also shopped two or more stores. This statistic should be qualified by the knowledge that each buyer may have considered two or more brands but still had a strong preference for only one. They similarly may have shopped two or more stores but had a strong preference to shop at one particular store.

Buyers' Characteristics and Behavior

The majority of the buyers bought the brand and model they intended to purchase when they started to shop. Only 333 changed their brand intention during the shopping. A smaller percentage changed their model intention as a result of information obtained during the shopping period. The observed 33.33 brand loyalty as replacement purchases appears at first glance to be lower than expected, given the high follow through of predispositions. Table 4.18 explores the disparity. Brand loyalty is mostly lost before the shopping starts, rather than during the shopping process. The great majority of those who were brand loyal had that intention at the outset. Ten percent of the buyers had started their shopping with a different brand intention but later decided against purchasing a different brand. The majority of those who were not brand loyal also had that intention at the outset of shopping. A little over 60% of those who did not replace their appliances with the same brand had that intention from the beginning.

An opportunity to buy a bargain did not appear to influence purchase intentions. Sixty-eight percent of those buying their appliances at sale purchased the brand they initially intended to. A smaller percentage of those who did not purchase at a sale price followed through with their initial intentions. However, buyers were obviously receptive to sale

Table 4.19

Purchase characteristics

	<u>Did not change initial brand intention</u>	<u>Changed initial brand intention *</u>	
Bought same brand as previously owned	89.55	13.41	1000
Bought different brand	66.50	26.35	1000
Not applicable	61.55	57.25	1000
	<u>89.55</u>	<u>26.35</u>	<u>1000</u>

McN : $p = 0.0000$

	<u>Purchased in 1979</u>	<u>Did not purchase in 1979</u>	
Bought same brand as previously owned	30.15	25.85	1000
Bought different brand	30.85	28.35	1000
Not applicable	80.85	15.85	1000
	<u>31.00</u>	<u>26.15</u>	<u>1000</u>

McN : $p = 0.1871$

	<u>Did not change initial brand intention</u>	<u>Changed initial brand intention</u>	
Purchased in 1979	87.85	32.15	1000
Did not purchase in 1979	68.85	33.15	1000
	<u>88.55</u>	<u>37.85</u>	<u>1000</u>

McN : $p = 0.6309$

* This question was "Did you buy the brand that you thought you would buy when you first started shopping?"

prices. 72% indicated they had bought their new appliances on sale or at a specially reduced price. A further 5% indicated they had negotiated a special deal with the salesperson. Those purchasing on sale were no longer loyal as those who did not purchase on sale (see Table 4.13.)

Two-thirds of the buyers (66.6%) stopped shopping and purchased because they found exactly what they wanted - an appliance meeting all the choice requirements. The rest of the buyers stopped shopping and purchased because the marginal benefit of any further effort was not considered worthwhile. These two groups had a similar incidence of sale purchases. The group that found what they wanted were more satisfied with their purchase and were in stronger agreement that shopping was a pleasant experience (see Table 4.14). These results run contrary to the common microeconomic assumption that most buyers will continue to shop until the marginal benefit equals the marginal cost. Instead it seems that most buyers know what they want beforehand (or soon establish what they want) in terms of model, brand and product features and stop shopping and purchase when this is found.

The buyers were overwhelmingly satisfied. After an average of seven months ownership, 90% were satisfied with their purchase, over 72% were very satisfied. Only one in forty of the buyers was dissatisfied with their purchase. The difference between the two samples on the satisfaction measure, as with all of the other purchase outcome measures described in this section, was not statistically significant.

Table 6.29
Purchase outcomes

"I found the shopping and information search a pleasant experience"							
Group	Strongly Agree	Mod- erately Agree	Mod- erately Disagree	Strongly Disagree	Strongly Agree	Mod- erately Agree	Mod- erately Disagree
Found appliances meeting all choice requirements	17.85	21.88	39.38	21.88	7.75	4.44	5.85
Chose the best of the bunch	8.8	11.2	15.0	26.8	18.3	8.3	9.4
Overall	15.0	16.4	18.7	24.1	8.2	6.4	7.1

McN. $p = 0.0070$

Satisfaction					
Group	Very Satisfied	Satisfied	Neither satisfied nor dissatisfied	Dissatisfied	Very dissatisfied
Found appliances meeting all choice requirements	83.33	16.67	0.00	0.00	0.00
Chose the best of the bunch	40.5	48.0	9.4	3.8	1.1
Overall	73.7	23.8	2.1	1.8	0.8

McN. $p = 0.0000$

Summary

The 1978 buyer of a white appliance can be characterized as a fairly confident, female shopper who purchased because of a residential move or a previous product failure. She consulted with her husband, relied mostly on her past knowledge and experience and possessed few strong, specific shopping motivations. She perceived that differences existed between brands, but considered only a few brands and ended up purchasing the one she most preferred at the start of the shopping. Less than half a day was spent shopping (including traveling to and from the stores) and few stores were visited. The salesperson was consulted for information and advice and he or she was regarded as the most useful information source. Newspaper advertising or a catalog may have been read or a friend or relative consulted. It is less likely that she read the manufacturers' brochures and labels or Consumer Reports. The buyer was not very brand loyal and very likely purchased at a special price the appliance that was exactly what she wanted. The upshot of this purchase activity was that at the time of the survey, some six months after the purchase, she was satisfied with the purchase.

Having provided such an average profile, it must be quickly stated that there was considerable variability in the reported behavior, perceptions, judgments and motivations. Whether or not a buyer had recently moved did not appear to account for a lot of this variability. The earlier, recent-mover sample purchased a significantly higher percentage of refrigerators and, as expected, a much higher percentage of this group indicated the residential move was the major reason for the purchase. This special sample had also lived a shorter time in the local area and were comparatively less familiar with local stores and more uncertain

about where to shop. In absolute terms, however, they had spent, on average, many years in the local area and were familiar with local stores and fairly sure where to shop. The standard sample was made up of a much higher percentage of feature-based purchase situations. This did not result in a significantly greater reporting of perceived purchase time-pressure and resulted in only a marginally greater incidence of short consideration times.

The two samples did not substantially differ in their shopping interest and motivations or in their choice strategy. Consequently their shopping behavior and information search were very similar. The special sample of recent movers did consult with a friend or relative first more often and appeared to slightly more frequently consult only newspaper advertising and to only shop at large. The standard sample consulted a reference more frequently than the custom sample. Otherwise, there were no outstandingly distinctive differences in the shopping and search behavior of the two groups. The special sample of recent movers reported purchase behavior, reasons for stopping shopping and ultimate satisfaction very similar to the standard case. In summary, little evidence was provided that recent movers, per se, undertake a distinctive search and shopping process.

Table 6.21 highlights some of the general findings of the two surveys and compares them with the findings of past research. Previous research has reported a much higher percentage of buyers who had a consideration time longer than six months. It has also, by perceiving consideration of the salesperson's influence, given much greater emphasis to the importance of other sources of information such as friends and relatives. The 1970 white appliance shopper relies much more frequently on the information

Table 8.10

Summary comparison with previous findings

Field ResearchObservation Research

No findings

■ Buyer uncertainty prior to shopping

Buyers are generally quite sure about how to choose, product features, brand performance, what to choose and where to shop. Substantial variability between buyers noticed.

No findings

■ Buyer interests and motivations

Buyers are generally neutral about shopping and search motivations. Decision to identify potential spending problems is strongest desire, to enjoy shopping for new value is weakest. Substantial variability between buyers exists.

No findings

■ Perceived brand worthiness

Brands are perceived to vary most on price and durability, least on style. Ignorance greatest on long term performance - durability and operating costs.

Suggests prior learning plays a major role in buying decision

■ Buying strategy

Buyers rely mostly on past experience. Only one third of the shoppers rely mostly on new information or advice obtained from shopping and information search.

Around 25-35% less than a week, around 30% longer than 6 months.

■ Search/decision time

Around 25% of buyers less than a week, around 10% longer than 6 months.

Table 4.20 - continued

<u>Best Research</u>	<u>Discretionary Research</u>
No findings	■ <u>Use of information sources</u> The average buyer thought about consulting only three out of nine possible sources. Average number of sources consulted between 2 and 3. Positive exposure to sources is higher than active consulting of sources. The salesperson clearly dominates as an information source followed by newspaper advertising, friend or relative and catalogue.
Positive exposure to sources is higher than active consulting of sources.	No source dominates as the one first consulted. The use of types of information source is related to the first source consulted.
Friends or relatives dominate newspaper advertising is less important (salesperson not studied)	■ <u>Number of lines considered</u> Around 100 to 475 considered only one brand at the outset, around 150 considered four or more.
No findings	■ <u>Store shopping</u> Around 26% stopped at only one store, around 25% stopped four or more.
Estimated range from 17% to 85% of buyers stop at only one store, around 25% to 40% stop four or more.	Specifically stores and Sears dominate. Discount and department stores have a poor visit to sale conversion ratio.
No findings	About 40% of the buyers spent 2 hours or less shopping, over 70% spent less than half a day shopping. Half of the buyers shop on weekdays, a quarter shop at night and a quarter shop in the weekend.
No findings	

Table 8.21 - continued

Task Research

Situation Research

a. Purchase behavior

No findings

About 300 purchased the brand they initially intended to before shopping

Brand loyalty ran at around 300.

Around 700 purchased at a special price.

Around two thirds of the buyers stopped shopping because they found exactly what they wanted. The rest stopped and chose the best of the bunch.

900 were satisfied with their purchase

and advice of the salesperson than a friend or relative. Newspaper advertising and catalogs are also reported to play a much more important role in this study than in past research. Bowen and Steffen (1975) reported newspaper and magazine advertising was used by some 200 of the buyers and reported as useful by some 5 - 100. The above research found that newspaper advertising alone was read by half the buyers, actively consulted or sought out by 48% and rated as useful by 32%. It is hard to compare the incidences of numbers of brands considered and stores shopped but it appears that today fewer buyers are considering only one brand and shopping at only one store. On the other hand the incidence of shopping at more than four stores or considering more than four brands is lower now than in the past. The variation in the scope of shopping is perhaps less extreme nowdays.

About 25% of the buyers in the two surveys seemed to treat the appliance they purchased as a specialty good. They considered only one brand and shopped at only one store. The majority of the buyers (68%) compared shopped. A small group (10%) considered several brands but only shopped at one store. They did not treat the appliance purchased as a specialty good or a shopping good. In a sense they could be called convenience shoppers as they did not believe they were shopping for a single brand and yet could not be labeled convenience shopping at another store.

The high incidence of convenience shopping is consistent with the perceived brand differences reported and the high percentage of sales purchases observed. However, the term convenience shopping may be somewhat misleading. Only a third of the shoppers stopped shopping and chose the best appliance they had seen. That is, they compared and chose the best

The majority stopped shopping because they found exactly what they wanted. Consideration of more than one brand, or the shopping of more than one store may not necessarily indicate comparison shopping but rather that the first brand considered, or the first store shopped at, did not have the appliance model that was sought. In this case, further shopping would be undertaken, not to compare brands or stores, but to locate the appliance that fitted the requirements. This is a form of specialty rather than comparison shopping. The buyer may not be seeking a specific brand but she is seeking a specific type of appliance and is shopping for one that meets her exact criteria— she will shop until she finds such an appliance. The upshot is that for more than 50% of the shoppers who have visited the appliance they purchased as a specialty appliance need whatever the shopping approach, the very great majority (86%) of the shoppers were satisfied or very satisfied with the outcome, after an average of seven months' use of the appliance.

CHAPTER COVER FACTOR ANALYSIS OF SHOPPER MEASURES

Introduction

Most of the recent appliance research has used a composite measure of the extent of buyers' information search and shopping. The construction of a single measure to represent a large set of highly interrelated measures of shopping and search considerably simplifies the examination of relationships between shopping behavior and its expected determinants.

First assumptions and practices prompted an examination of whether one single measure of shopping and search scope could be generated out of the measures in this study of number of brands considered, number of stores shopped, actual shopping time and purchase consideration time. All four of these measures have been plausibly related to the extent and breadth of consumer shopping. However, the application of such factor analysis was not limited to these behavior measures. The survey questionnaire contained a set of six measures of prior purchase uncertainty, six measures of shopping interest and intentions, and six measures of perceived brand difference. All three sets of measures have not appeared in previous appliance research and were of unknown dimensionality and reliability. In such circumstances it seemed most appropriate to factor analyze these sets of measures. The sample was made up of all the buyers in the standard and carton surveys who purchased a white appliance. The interview with buyers' responses were analyzed separately (see Chapter Nine).

The analyses are presented in the order that the variables appear in the shopping and purchase process model. The latent structure underlying

the uncertainty measures is first described and is followed by the factor analysis of the interest and information measures and perceived brand differences. The factor analysis of the shopping behavior measures were undertaken. The first examined the relationships between number of brands considered, numbers of stores shopped, purchase consideration time and actual shopping time. In the second analysis, measures of the extent of consultation of commercial and independent information sources were added, making this an analysis of the scope of information search.

Shopping

Factor Perceived Uncertainty

The principal components analysis of the six uncertainty measures generated two components with eigenvalues greater than one. The first explained 50% of the observed variability and the second 12%. The correlation matrix and related factor loading matrix are presented in Table 7.1. The first factor is highly correlated with the uncertainties *what* *what to do*, *what to do*, *what to do*, *what to do*, *what to do*, and *what to do*. The second component is highly correlated with *uncertainty about the features available*, *the performance of various brands and models* and the most important purchase considerations. *Uncertainty about what to do may be due to a lack of knowledge but it will also exist for people who are very experienced and knowledgeable but are still unsure which option to choose.* This probably explains why the action uncertainty factor is orthogonal to the second uncertainty component which captures the uncertainty resulting from lack of knowledge and experience. The eigenvalues of the third and fourth principal components were only 0.42 and 0.38 respectively. It was therefore inappropriate to force a third factor as this would contravene both Kaiser's 1% rule, Jiffy criteria and the sharp break criteria (Jiffs and Steth 1971).

Table 7.1

Factor analysis of white-appliance shoppers' uncertainty

Measure about:	Correlation Matrix				
	1	2	3	4	5
Features available	0.67				
Performance of brands and models	0.49	0.43			
Most important considerations	0.47	0.45	0.33		
What brand to choose	0.48	0.38	0.17	0.49	
What model to choose	0.30	0.22	0.21	0.32	0.40
Where stores to shop at					
Various rotated-factor loadings pattern: two factors					
	Factor 1 What to do	Factor 2 How to Choose	Communality		
Measure about:					
Features available	0.35	0.78	0.67		
Performance of brands and models	0.17	0.87	0.49		
Most important considerations	0.12	0.79	0.33		
What brand to choose	0.79	0.28	0.71		
What model to choose	0.26	0.58	0.21		
Which stores to shop at	0.89	0.11	0.73		
Variance in the responses that is explained by the factors	39%	30%	Total = 69%		

Purchase Intentions, Interest, and Satisfaction

The six interest and intention measures presented a more complicated latent structure than the six uncertainty measures. The first principal component explained only 40% of the variability and the two components with eigenvalues greater than one, together explained only 60% of the variance. The distinct features of the two-factor, varimax rotation was the separation of the desire to spend as little time shopping as possible from the other intentions and interests (see Table 7.2). These shoppers who agreed they wanted to make a quick purchase indicated less agreement with the statements that they had sought to enjoy the shopping, learn new things and were interested in technical details. However, only the first of these three negative correlations was reasonably large.

The latent structure did not reveal the expected relationships between shopping urgency and the extent of concern over the two types of purchase risk. The buyers who indicated agreement that they wanted to effect a quick purchase did not more strongly agree that they had sought to find out what might be wrong, or go wrong, with the appliances considered. Time pressure, as reflected by the desire to effect a quick purchase, did not increase the buyer's attempts to reduce performance risk. Such buyers were also as interested in acquiring useful and up-to-date, new technology as the buyers who indicated they were willing to take their time making the purchase.

The first major factor is, for the want of a better term, labeled risk avoidance. This is a reasonable title if a desire to learn new things and interest in technical details are interpreted as means of minimizing the risk of buying a problem appliance (type 1 risk) and the risk of not obtaining the newest advances in technology (type 2 risk).

Table 2.2
Factor analysis of white-collar shoppers' activities

Correlation Matrix					
Activities and Interest	Learn	E1	Enjoy	Tech	E2
Wanted to learn	1.00				
Tried to find facts (E1)	0.46	1.00			
Wanted to enjoy shopping	0.40	0.34	1.00		
Interested in technical details	0.38	0.48	0.40	1.00	
Wanted to obtain news (E2)	0.38	0.37	0.37	0.33	1.00
Wanted to spend leisure time	-0.28	-0.20	-0.42	-0.18	-0.03
Variance related factor loadings pattern, two factors					
	Factor 1 Learn E1	Factor 2 En. T. Enjoy	Correlations		
Agreement with the following:					
Wanted to learn new things	0.46	-0.47	0.53		
Tried to find facts (E1)	0.76	-0.12	0.68		
Wanted to enjoy shopping	0.43	-0.75	0.68		
Had a technical interest	0.71	-0.32	0.59		
Wanted to obtain news (E2)	0.30	0.08	0.50		
Wanted to spend leisure time	0.20	0.52	0.37		
Variance in the responses that is explained by the factors	34%	21%	Total = 45%		

Continued

table 3.2 - continued

varimax rotated factor loadings pattern: three factors

	Factor 1 Time Factor	Factor 2 Do It Quickly	Factor 3 Do It/ Beast	Communality
Agreement with the following:				
Wanted to learn new things	0.68	-0.45	0.33	0.60
Wanted to find faults (RT)	0.69	-0.62	0.07	0.79
Wanted to enjoy shopping	0.28	-0.40	0.29	0.40
Had a historical interest	0.75	-0.17	0.38	0.62
Wanted to obtain news (RT)	0.70	-0.04	0.64	0.68
Wanted to spend little time	0.07	0.50	0.08	0.23
Variance in the responses that is explained by the factors	50%	25%	10% total = 75%	

A third factor was forced on us to increase the percentage of variance explained and to examine what impact the addition had on the latent structure. It should be noted that the addition cannot be justified according to the Nijels giffy test (the eigenvalue was less than one) but there was a break of 0.15 between the third and fourth principal components and adding the third factor increased the explained variance by 12%. The impact of this addition is quite interesting. The desire to obtain the new technology and avoid the risk of not obtaining the latent technology separates the new, third factor. The second factor subsumes its integrity as a concern over getting the purchase made quickly and a link of interest in enjoying the shopping for its own sake. The first factor has changed in that it now more strongly reflects concerns over minimizing the risk of buying a problem appliance and interest in technical details. The original correlation matrix shows that technical interest had a higher correlation with attempts to identify operating problems than with an interest in new technology.

What this latent structure suggests is that the attempt to avoid type I risk is independent of the attempt to avoid type II risk and both are unrelated to the desire to make a quick purchase. The lack of a strong relationship between the two risk avoidance intentions ($r = 0.28$) supports that subjects do not make a strong connection between new technology and an increased risk of operating problems.

Perceived Brand Differences

The buyer's perceptions of the differences that existed between the brands were measured on six scales. Five of them measured brand characteristics, the sixth measured the subjects' perceptions of an

overall basis. Before relating the measures to any search activity it was felt that a factor analysis might usefully reveal whether perceived brand difference was a unidimensional construct or multidimensional. Before undertaking the analysis, the 750 subjects who indicated that they did not know what brand differences related to one or more of the scales were excluded from the analysis. This had to be done as the inclusion of a zero point that represented 'don't know' rather than nil difference would have made a nonsense of the measure.

The correlation matrix revealed some interesting relationships (see Table 7.3). Perceived price variability between brands appeared to be least related to the other measures. Overall variability was most related to variability in durability and operating costs.

Only the first principal component had an eigenvalue greater than one. It explained 60% of the variability in perceived brand differences. To further examine the patterns a three factor structure was forced. The two additional components' eigenvalues were 0.38 and 0.28 with a sharp break of 0.35 between the third and fourth. The new structure explains 80% of the variation and suggests that the buyers see the extent of perceived brand differences on three separate dimensions - durability and operating costs (long lasting), features and style, and price. This confirms that buyers' opinions of the variability in appliance prices bears little relation to their opinions and expectations about the variability in durability and operating costs and their opinions of the style and feature variability across brands.

Shopping Steps

The most interesting question addressed by the factor analysis of the four measures of shopping steps, listed in Table 7.4, was whether a

Table 3.3

Factor analysis of white-appliance shoppers' perceived brand of Whirlpool

Extent of difference:	Correlation Matrix				
	1	2	3	4	5
Price	1.00				
Features	0.34	1.00			
Style	0.34	0.60	1.00		
Durability	0.35	0.44	0.37	1.00	
Operating costs	0.38	0.44	0.40	0.61	1.00
Overall	0.32	0.50	0.43	0.61	0.70

Principal component factor loadings of extent of perceived brand of Whirlpool

In terms of:	Factor 1	Communality
Price	0.93	0.78
Features	0.34	0.22
Style	0.67	0.45
Durability	0.30	0.09
Operating costs	0.47	0.22
Overall	0.56	0.31
Explained variation	100	

Barrows rotated factor loadings, pattern: three factors

In terms of:	Factor 1 Operating Performance	Factor 2 Style & Features	Factor 3 Price	Communality
Price	0.01	0.12	0.97	1.00
Features	0.34	0.87	0.09	0.78
Style	0.18	0.89	0.10	0.83
Durability	0.65	0.28	0.12	0.77
Operating costs	0.64	0.22	0.15	0.77
Overall	0.67	0.31	0.18	0.80
Variation in the responses that is explained by the factors	80	29	17	Total = 126

Table 1-4

Factor analysis of auto-appliance shoppers' shopping activity

Correlation Matrix			
	CT	#B	ST
Consideration time (days)			
# brands considered	0.47		
Shopping time (hours)	0.18	0.47	
# stores visited	0.18	0.43	0.43
Series rotated factor loadings pattern: two factors			
	Factor 1 (Shopping Scope)	Factor 2 (Time Lag)	Communality
Reported behavior:			
Consideration time (days)	0.88	0.00	0.88
# brands considered	0.83	-0.05	0.78
Shopping time (hours)	0.01	0.73	0.67
# of stores visited	0.07	0.78	0.80
Variation in the responses that is explained by the factors			
	94%	29%	Total = 79%

single principal component would dominate the latent structure. The first component did, indeed, overwhelm the other three. It explained 84% of the variability. However, the second component had an eigenvalue of 0.983 and explained close to 20% of the variance. Inclusion of the second component in the latent structure was justified on the sharp break test and came very close to meeting Kaiser's justification. Together the two components explain 94% of the variance.

The general conclusion from this analysis is that the measure called *consideration time* is a distinctive construct, unrelated to a sensitive measure of shopping scope or shopping activity. In the past, *consideration time* has been used as a surrogate for the extent of planning that preceded the purchase and the circumspectness of the buyer. If it really does measure the amount of prior care and consideration given to the purchase then this latent structure suggests that such activity does not result in more thorough shopping. An explanation for the lack of correlation between 'consideration time' and the other measures of search and shopping activity is that the measure does not reflect consideration, per se, but instead measures purchase postponements induced by financial embarrassment, being out of stock, or the desire to catch a special sale. Another reasonable possibility is that at some stage between initial problem recognition (first consideration) and first purchase, interest was lost or attention and energies were redirected toward other higher priority activities (e.g., taking a holiday, looking after a sick family member, etc.). The practice of separating the stages in decision process consumer models which sell rather than broken items may be misleading. It suggests a singularity of direction and purpose of the consumer which does not reflect the busy day to day or week.

to seek demands on his or her time which results in the switching from one task to another of higher priority. A final reason for the lack of a relationship is that, for some buyers, prior consideration may lead to decisions which reduce rather than increase the number of brands included and stores shopped. Careful prior consideration may lead other buyers to shop more extensively.

Shopping and search stages

A measure of the number of different commercial information sources consulted (magazine ad, newspaper ad, TV ad, catalog, brochures and leaflets, magazine and salesperson) and a measure of the number of different independent information sources consulted (friend or relative and Consumer Reports) were added to the three measures of shopping scope and the measure of consideration time or time-lag. The possibility existed that the latter measure might relate to the breadth of search of information sources, if not shopping activity. The first principal component explained 40% of the variation, the second 32% with an eigenvalue of just over one. Table 7.5 reveals that time between first consideration and purchase was independent of all of the search and shopping measures. This initial latent structure explained less than 40% of the variation in the number of different commercial and independent sources used. A third factor was forced to see if the expanded structure would explain a higher percentage of these measures. It had an eigenvalue of 0.95 and explained a further 14% of the total variation. The varimax rotation of this three dimensional structure, presented in Table 7.6, reveals three factors representing shopping scope, range of sources consulted and time-lag. An inspection of the correlation matrix confirms that the range of sources consulted is not very highly correlated with shopping effort. This finding suggests that a single composite measure of search and shopping

Table 7.4

Factor analysis of white-appliance shoppers' search mode

	Correlation Matrix		ST	F Stores	F CDS
	CT	F Brands			
Consideration time (days)	0.97				
F brands considered	0.58	0.67			
Shopping time (hours)	0.78	0.63	0.43		
F stores visited	0.53	0.67	0.38	0.30	
F commercial inf. sources	0.68	0.59	0.38	0.30	0.30
F independent inf. sources	0.68	0.59	0.38	0.30	0.30
Varimax rotated factor loadings pattern	Two Factors				
	Factor 1 Search Scope	Factor 2 Time Lag	Communality		
Reported behavior:					
Consideration time (days)	0.68	0.68	0.68		
F brands considered	0.60	-0.63	0.64		
Shopping time (hours)	0.77	0.74	0.61		
F stores visited	0.68	0.74	0.71		
F commercial inf. sources	0.68	0.70	0.70		
F independent inf. sources	0.68	-0.67	0.68		
Variation in the responses that is explained by the factors	488	779	Total = 1268		

Continued

Table 7.6 - continued

series-related factor loadings pattern: three factors

	Factor 1 Sleeping Scope	Factor 2 Range of Sources	Factor 3 Time Lag	Communities
Reported behavior				
Contemplation time (days)	0.88	0.04	0.00	0.78
# brands considered	0.80	0.22	-0.44	0.69
Shopping time (hours)	0.79	0.00	0.11	0.64
# stores visited	0.81	0.14	0.10	0.80
# commercial ref. sources	0.75	0.40	0.17	0.62
# independent ref. sources	0.12	0.59	-0.00	0.47
variation in the responses that is explained by the factors	58%	22%	13% Total = 73%	

activity is technically acceptable, in that all the correlations are positive, but is a rather insensitive and incomplete measure of the variability in search and shopping activity.

Summary

The objective was to reduce the sets of measures that were available to each analyst down to two or three composite variables. Table 2.4 summarizes the results.

The awareness measures were reduced to two factors. The first reflected awareness/awareness about what to buy and where to shop, the second indicated uncertainty about features that were available, performance of alternatives and choice criteria. This suggests that buyer uncertainty has two major components, choice conflict and lack of knowledge.

The motivation type measures were able to be captured on three dimensions. The first factor related to concern over identifying operating problems and interest in technical details. The second factor indicated concern over spending as little time shopping as possible and little interest in enjoying the shopping for its own sake. The third factor captured the desire to obtain the latest technology. A desire to learn new things related to all three factors. The implication of this is that learning is used to avoid the two risks but also has a general curiosity component which is related to enjoying the search for its own sake and negatively correlated with desire to effect a quick purchase. The structure did not reveal expected relationships between purchase urgency and risk avoidance.

The extent of perceived brand differences is not a single construct. There appear to be three components - quantity and operating cost variability, style and feature variability and price variability.

Table 7.4
Summary of the latent structures

-
1. The six measures of uncertainty reduced to
 - Action uncertainty | choice conflict
 - Lack of knowledge and experience uncertainty
 2. The six measures of intentions, interests and motivations reduced to
 - Desire to identify peer performance
 - Desire to spend as little time as possible
 - Desire to obtain latest technology
 3. The six measures of extent of difference between brands reduced to
 - Variability in spending performance
 - Variability in features and style
 - Variability in price
 4. The four measures of shopping effort reduced to
 - Shopping scope
 - Time-log
 5. The six measures of shopping and search effort reduced to
 - Shopping scope
 - Range of sources
 - Time-log
-

The last two factor analyses on the behavior measures revealed that the measure of time-lag between first consideration and final purchase was unrelated to shopping activity and breadth of search. This suggests that the time-lag measure reflects purchase procrastination rather than consideration time. The three shopping measures made up a single composite shopping factor but this construct was orthogonal to the number of different sources consulted. This suggests that consideration should be given to creating separate indices of shopping activity and the consultation of different information sources.

CHAPTER EIGHT EXAMINATION OF THE HYPOTHESIZED RELATIONSHIPS

Introduction

In the previous two chapters the different behavior of the standard and control samples was contrasted and the latest situations underlying certain sets of features was described. The major purpose of the survey research was, however, the examination of the hypothesized relationships suggested in Chapter Four. The theoretical framework introduced in that chapter and which underlies the hypotheses is reproduced in Figure 8.1. Its major feature is the emphasis on examining the main effect and interactive relationships of individual differences, purchase situation and the nature of the experience on shoppers' uncertainties, motivations and behavior.

Previous research has not applied such a model. The work that came closest to such an approach is Rosen and Shultz's research (1979, 1981). They searched for significant effects using the AID (Automatic Interaction Detection) multivariate technique. After isolating the important factors out of a set of thirty-six independent variables, Rosen and Shultz constructed a model which included interaction terms as well as main effects and used MCA (multiple classification analysis) to fit the model to appliance purchase consideration time and an information seeking index. In the latter model the interaction terms were the number of brands initially considered crossed with brand loyalty and the number of brands initially considered crossed with the cost of product purchased.

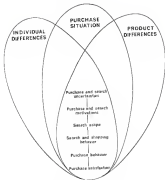


Figure 8.1 The interactionist model

The *Fixed Effects*

In this research a *FGLS* model was systematically fitted to all of the dependent measures examined. The *F* stands for an individual difference variable, the *S* for the purchase situation variable and *O* for appliance type (refrigeration or laundry). This enabled not only the *FGLS* main effects on the dependent variable to be tested, but in addition allowed the testing of $F \times S$, $F \times O$, $S \times O$ and $F \times S \times O$ interaction effects on the dependent measure. The individual difference measure that was primarily used was previous shopping experience. Rowan and Iacobini (1970) found that past experience and learning played the major role in influencing shopping and search. The buyers were grouped into those who had never previously shopped for and purchased a new appliance of the type recently purchased, and those who had. In some of the analysis the experience group was subdivided further into those with some experience (one or two previous purchases) and those with a lot of experience (three plus previous purchases). Where the hypotheses dealt with income, education or age then such individual difference measures replaced experience in the *FGLS* model that was fitted to the dependent measure of interest.

The two samples were merged into a single sample of 385 recent buyers of a laundry or refrigeration appliance. The purchase situation effect was operationalized by collapsing the categories of the purchase circumstance question in the following way:

- **Move** = subjects who indicate they had made the purchase as a result of a residential move, including setting up home for the first time;
- **Failure** = purchases that were failure-based;
- **Other** = purchases where a still/operating appliance was replaced;

Forty-three of the purchases could not be assigned to any one of these categories. This group was primarily made up of first-time buyers who simply indicated they "wanted" the appliance. This could not be recorded as a separate situation category so consequently these buyers were excluded from the analysis which reduced the sample size to 342.

The testing of the relationships suggested by the hypotheses has been undertaken within this P/S/D framework. It generally proceeds in the order that the hypotheses are presented in Chapter Four. The time-pressure, store familiarity and decision participation hypotheses are first of all examined. The uncertainty and rationality hypotheses are next addressed. Sections on the search, shopping, purchase and outcome hypotheses follow. Finally, the relationships suggested by the process hypotheses are examined. As this two-level examination of relationships between dependent variables, the P/S/D framework did not apply. The hypotheses involving the microwave oven purchases were also not amenable to testing within the P/S/D framework and are separately examined in Chapter Five.

Model Fitting Methods

Two analytical techniques were used, the choice depending on whether the dependent variable was regarded as having been measured on an interval scale (e.g., the number of brands initially considered) or on a nominal or ordinal scale (e.g., consulted a newspaper advertisement or not).

The measures treated as interval scales were analysed using a general linear model (GLM) analysis of variance framework (SPSS 1991). A structurally non-orthogonal (unequal cell sizes), fixed-effects model was assumed. The main effect of person (P), situation (S) and product (D) were represented by dummy variables and regressed against the

dependent measure. The full set of two-way interactions and the three-way interaction were accounted for by taking the appropriate products of the dummy variables and introducing each one of these products into the regression equation by adding a further dummy variable.

In testing each main or interaction effect the full (saturated) model was first of all fitted. The specific effect's dummy variable was then eliminated from the full model and the reduced model was fitted. The difference between the residual sums of squares of the two models is the sum of squares reported for each effect. In this way structural non-independence is controlled and the interaction effects are not spuriously inflated. This was an important concern as the call size in some of the analyses ranged from 10 to 40. In fact, call size placed a constraint on the size and nature of the model fitted. For certain hypotheses it would have been desirable to have added another individual difference factor and to have crossed it with experience, situation and product. This wasn't, however, done created an uncomfortably large number of calls with less than 10 observations.

The GENSTAT computer program was used (Gomez and Brown 1977). It has a GLM algorithm which is technically very similar to ANOVA analysis. Each table of findings presents the full analysis of variance and the call sizes for the main or interaction effects that were significant. To provide some initial perspective and to emphasize the importance of using the interactionist approach, certain sets of measures (experience, motivation and search scope) were initially analysed using a two group dichotomy of the situation, individual difference or product effect. The multivariate and univariate tests undertaken on these models (GENSTAT ignored all other effects and consequently, in some cases, produced spuriously inflated significance levels).

The effect of F/S/O on the measures that were normally or critically scaled was studied by fitting a log-linear model (LLM) to the cell frequencies of the four-way F/S/O/D table where D represents the dependent variable (from Table 1). The logarithm of the expected cell frequency is represented as an additive function of the main effects of F, S, O and their interactions, in a manner somewhat similar to the GLM model. The saturated model, containing all of the effects is represented as:

$$\begin{aligned} \log F_{ijkl} = & \mu + \lambda_i^F + \lambda_j^S + \lambda_k^O + \lambda_l^D + \lambda_{ij}^{FS} + \lambda_{ik}^{FO} + \lambda_{il}^{FD} \\ & + \lambda_{ji}^{SF} + \lambda_{jk}^{SO} + \lambda_{kl}^{SD} + \lambda_{ijl}^{FSD} + \lambda_{jil}^{FSO} \\ & + \lambda_{kli}^{FOS} + \lambda_{lji}^{DOS} + \lambda_{ijlk}^{FSOD} \end{aligned}$$

i = levels of individual difference measure

j = levels of situation measure

k = levels of product measure

l = levels of dependent measure

with a series of side conditions that constrain the marginal totals of the λ 's across the effects, so each column sum $\sum_l \lambda_{ijl}^F = 0$.

The log-linear model partial tests of association reported in the SPSS/FIT output are a form of eliminating test. The particular effect under test is partialled out of, or eliminated from, an LLM that contains effects of rank equal to or less than the effect under test. For example, the main effect of S on D (the χ_{ijl}^{SD}) is partialled out of an LLM containing all of the two-way terms (χ_{ijl}^{FS} , χ_{ikl}^{FO} , χ_{jkl}^{SO} , χ_{ijl}^{FD} , χ_{jil}^{FSO}) but excluding the higher order three and four-way terms. The equivalent

squared test is the simple chi-square test of the 30 two-way contingency table. This is called the marginal test because it tests the frequencies in the table made up of levels of situation by levels of the dependent variable. Each table has collapsed across levels of P and Q and is consequently a table of marginals. Both the marginal and collapsing tests are reported in the following analyses so as to identify spurious relationships where the simple chi-square test of association was significant but the partial test was not (e.g., was the product effect on decision participation in Table 4.4). Only the cross-tabulations or contingency tables that produced statistically significant effects are presented.

A further convention in the tables needs to be explained. The P, S and Q effects represent the tests of association between P and Q, S and Q and Q and Q respectively. The P x S, P x Q and S x Q effects represent the three-way tests of association between P, S and Q; P, Q and Q, and S, Q and Q respectively. The P x S x Q effect represents the four-way test of association between P, S, Q and Q. The other associations between P and S, P and Q, S and Q, and P, S and Q which are part of the full log-linear model and which were often significant are not reported as they are not directly relevant to the study of the relationship between the P, S and Q effects and the dependent variable.

Examination of the P/S/Q Model

Time-Pressure Hypothesis

The effect of time-pressure on the shoppers' behavior has to be qualified by the statistics on the incidence of failure circumstances. Only 17% of the refrigeration purchases went into the failure-circumstances. A much higher percentage (41%) of the laundry

purchases were failure-forced. The explanation that shoppers anticipate the failure of a refrigerator or freezer and replace it before it fails outright was not supported by the reasons given for replacing a still operating appliance. A lower percentage of the still operating refrigeration appliances (26.3%) were replaced because of anticipated future repair costs compared with the laundry appliances (34.0%). The reasons would have been expected if refrigeration buyers were purchasing in anticipation of product failure in the near future.

The research findings indicate that failure-forced replacement purchases are more frequently made under time-pressure. Table 8.1 shows that close to 80% of the buyers in this situation perceived they were under some time-pressure. About three out of five of the shoppers purchasing because of a residential move, and a little under half of those purchasing under other circumstances felt some purchase time-pressure. Apparently product failure does not place the constraints on all buyers, presumably because they have anticipated such failure or perhaps because they feel they have adequate time to make a replacement purchase despite the circumstances. On the other hand, the demands of other activities also appear to place a number of those purchasing a still operating appliance under some time-pressure.

The failure-forced replacement of a refrigeration appliance was expected to involve more frequent perceived time-pressure than the replacement of a failed laundry appliance (H_2). This 2 x 2 interaction was not significant (see Tables 8.1 and 8.2). There was, however, an interaction effect between experience and product. Experience increased the incidence of perceived time-pressure amongst the refrigeration buyers. The relationship was non-monotonic for the laundry products. While a

Table 8.1

Effects of experience, situation and product on time-pressure

Time-pressure		None	Slight to Extreme
Situation			
	None	30.85	43.25
	Failure	21.2	38.8
	Other	31.8	46.8
Product	Experience		
Information	None	44.25	53.25
	1 - 2	40.3	50.3
	3 +	38.8	47.4
Learning	None	38.45	46.45
	1 - 2	29.8	38.8
	3 +	34.8	38.8
Effect		Eliminating test: F _{9, 108} = 11.12	Marginal test: F _{9, 108} = 11.52
Experience (F)		0.0000	0.0113
Situation (S)		0.0000	0.0000
Product (O)		0.0120	0.0034
F x S		0.0723	0.1184
F x O		0.0074	0.0249
S x O		0.4871	0.4036
F x S x O		0.8258	

Table 3.2

(Effects of experience, situation and product on great time-pressure)

		T also indicated 'great' or 'extreme' time pressure	
Situation:			
	Failure	37.43	
	None	18.3	
	Other	7.0	
Product:			
	Refrigeration	20.25	
	Laundry	18.3	

<u>Effect</u>	<u>(1) binomial test</u> <u>on probability</u>	<u>Marascuilo test</u> <u>on probability</u>
Experience (P)	0.0000	0.4308
Situation (S)	0.0000	0.0000
Product (O)	0.0000	0.0710
P x S	0.0000	0.0000
P x O	0.1278	0.1173
S x O	0.4024	0.4589
P x S x O	0.0016	

possible pool has explanation for this effect is not immediately apparent, it does confirm that time-pressure is a function of other factors besides the purchase circumstances studied.

A product as well as a situation main effect emerged in the analysis of the incidence of great or extreme time-pressure (see Table 8.2). H_3 was supported. A significantly higher percentage (37.4%) of the shoppers making a failure-forced purchase reported they were under "great" or "extreme" time-pressure. Shopping for a refrigerator product is also more likely to involve great time-pressure.

All three main effects influenced the incidence of purchase time lag (see Table 8.2). Experience decreases the incidence of longer "consideration" times and refrigerators have a higher incidence of longer "consideration" times. As hypothesized (H_{4a}), failure-forced replacement purchases had the highest incidence of short time-lags, novices had the highest incidence of medium length time-lags and those replacing still operating appliances had the highest incidence of long time-lags.

Store Familiarity Hypothesis

The overall familiarity with local stores has already been described as very high. The hypothesis that those purchasing because of a residential move would be less familiar with local stores (H_5) received some support (see Table 8.3). The number of previous purchases of the new sort of appliance did not influence familiarity. This suggests that store familiarity arises from general rather than product specific purchase experience of stores, particularly stores such as Sears, Roebuck, Penney's, & Mart and other department and discount stores.

Table 8.3
effects of experience, situation and product on time-lag^a

Time-lag	Under a week	1 - 4 weeks	5 weeks +
Experience			
None	19.7%	30.4%	49.7%
1 - 2	28.8	38.2	35.2
3+	42.9	31.8	14.3
Situation			
None	25.1%	42.4%	36.2%
Failure	54.0	26.2	21.3
Other	20.9	34.9	44.6
Product			
Refrigeration	27.4%	30.2%	39.1%
Laundry	30.3	48.1	22.4
Effects	Fluctuation test % probability	Sampling test % probability	
Experience (P)	0.0000	0.0000	
Situation (S)	0.0000	0.0000	
Product (Q)	0.0000	0.0107	
P x S	0.0004	0.0000	
P x Q	0.0000	0.0000	
S x Q	0.1000	0.0007	
P x S x Q	0.0000		

^a Time-lag was measured in terms of "how long was it from the time you first considered purchasing your new appliance until you actually made the purchase?"

Table 8.4

Effects of experience, situation and product on store familiarity

Number of familiar local stores	Under 4	4 +
Situation		
Best	58.2%	43.8%
Failure	58.5	48.7
Other	55.0	78.0
Effect		
	<u>Chi-squared test</u> <u>for probability</u>	<u>Marginal test</u> <u>for probability</u>
Experience (P)	0.3818	0.3007
Situation (S)	0.0000	0.0007
Product (Q)	0.2612	0.3085
P x S	0.0009	0.0798
P x Q	0.5884	0.7571
S x Q	0.2284	0.2541
P x S x Q	0.0000	

Decision Participation Hypotheses

Joint decision making was not higher except the lower income households as suggested by H_4 (see Table 4.5). There was, however, a higher incidence of joint participation for the refrigerator purchases (H_{4b}). Taking these two results together leads to a tentative conclusion that it is the joint use of the appliance that encourages joint purchase behavior, rather than the size of the financial commitment.

Although not raised as an hypothesis, the relationship between shopping experience and participation was examined and the analysis is presented in Table 4.6. The results suggest that the less the experience the greater the likelihood of joint shopping and decision making. It was then suspected that as experience is strongly related to age of the husband and wife, the experience-participation relationship might be spurious. To settle the matter, experience was crossed with age, product and joint decision making (see Table 4.7). What emerged was that experience maintained its significant relationship and the age effect although in the expected direction (i.e., households in the later stages of the family life-cycle have lower tendencies of joint shopping and decision making) was not significant.

Uncertainty Hypothesis

It was expected that the experienced shopper would be wiser in her knowledge of brands and features that were available and have more definite prior shopping intentions. The residential mover was also expected to be less sure about where to shop. The first stage of the examination of the uncertainty hypothesis involved simple contrasts between the inexperienced and experienced shoppers and the residential move and other relocations, across the six downtown-downtown residents

Table 8.3
Effects of income, situation and product on decision participation

		Joint planning and decision making	
Household Income			
	Under \$15,000		63.4%
	\$15,000 plus		64.8%
Product			
	Refrigeration		66.8%
	Laundry		66.3%
Effect		Chi-square test on probability	Marginal test on probability
Income	(2)	0.8092	0.7433
Situation	(2)	0.3146	0.1002
Product	(2)	0.0469	0.8736
P x S		6.7728	0.7675
P x I		0.4940	0.5258
S x I		0.8197	0.7889
P x S x I		0.9076	

Table 2.4

Effects of experience, situation and product on decision participation

		Joint shopping and decision making
Product		
	Intelligence	58.05
	Lowdry	48.7
Experience		
	None	63.25
	1 + 2	50.5
	3+	47.8

Effects	Estimating test by probability	Marginal test by probability
Experience (P)	0.0290	0.0424
Situation (S)	0.3946	0.1182
Product (Q)	0.0517	0.0134
P x S	0.4853	0.4074
P x Q	0.5401	0.7636
S x Q	0.8760	0.7989
P x S x Q	0.8433	

Table 8.2

Effects of age, experience and product on decision participation

Experience		Joint, shared and decision making
None		67.75
1 - 2		55.7
3+		43.8
Age		
Under 40		55.45
40 plus		48.5
Product		
Refrigeration		58.75
Laundry		46.7

Effect	Illustrating test (% product 1/3)	Marginal test (% product 1/12)
Experience (E)	0.0211	0.0211
Age (A)	0.0026	0.4821
Product (P)	0.0040	0.0026
E x A	0.7150	0.8670
E x P	0.4919	0.4919
A x P	0.1133	
E x A x P	0.5693	

(see Table 8.8 and Table 8.9). These results suggest that, overall, experience marginally decreases uncertainty, its strongest effect being awareness about what model to choose. Experience had no effect on uncertainty or awareness about the performance of different brands and models. Turning to the impact of residential move, the multivariate test indicated that the residential move situation involves higher uncertainty, particularly with respect to model and brand choice. This is somewhat surprising as it might have been expected that the greatest difference in uncertainty between the groups would have been in which stores to shop.

The full 3x3x3 model analyses on each uncertainty measure indicated a more complex set of relationships. They suggest that the experience effect on uncertainty noted above is spurious and it is the situation and product factors that really explain the differences. The buyers purchasing because of a residential move were less sure about the features that were available (see Table 8.10), less sure about what brand to choose (see Table 8.13), less sure about what model to choose (see Table 8.14) and less sure about which stores to shop at (see Table 8.15). Brand choice uncertainty was higher for the refrigerator and freezer purchases (see Table 8.13). Experience appeared to moderate (reduce) the effect of residential move on brand and model performance uncertainty, (see Table 8.11) and also to moderate the effect of the impact of type of appliance on performance uncertainty. The effect of product on performance uncertainty was most marked for the inexperienced buyers.

Table 8.8

Effect of previous shopping experience on uncertainty

Rate uncertainty of groups about	No. previous experience	Low previous experience
The features that were available	2.32 ^a	2.12 ^a
The performance of the different brands and models	2.83	2.78
The most important considerations you were going to use to make your purchase choice	2.58	1.88 ^a
What brand to choose	2.54	2.33 ^a
What model to choose	2.31	2.37 ^{ab}
Which stores to shop at	2.16	1.99 ^a

1 = very sure 7 = very unsure

Main effects: $R^2 = 0.0482$, Hotelling's $T^2 = 11.7808$ $F_{2,128} = 1.0454$, $p = 0.372$ * $p < 0.05$ ** $p < 0.01$

Table 8.8

Effect of residential move on uncertainty

Mean uncertainty of groups about	Residential move	Other Circumstances
The features that were available	2.26	2.11 *
The performance of the different brands and models	2.34	2.75
The most important information you were going to use to make your purchase choice	2.34	1.99
What brand to choose	2.43	2.30 **
What model to choose	2.33	2.38 **
Which stores to shop at	2.11	1.85 *

1 = very sure, 3 = very unsure

reliability $R^2 = 0.1238$, determining $r^2 = 14.3553$ $F_{4,497} = 2.1683$, $p = 0.830$ * $p < 0.05$, ** $p < 0.01$

Table A.18

Effects of experience, situation and product on feature uncertainty

Uncertainty about the features that were available (1 = very sure, 3 = very unsure)	
Situation	Group means
None	2.56
Failure	2.12
Other	2.14

Analysis of Variance					
Source	S.S.	d.f.	M.S.	F	Significance
None	1704.82	1	1704.82	1257.84	0.0000
Experience (E)	1.78	1	1.78	1.34	0.2498
Situation (S)	4.52	2	4.58	3.38	0.0473
Product (P)	2.47	1	2.47	1.83	0.1758
E x S	2.72	2	1.36	1.03	0.3594
E x P	4.34	1	4.34	3.27	0.0809
S x P	1.49	2	0.74	0.56	0.5791
E x S x P	2.00	2	1.00	0.76	0.4688
Error	621.48	491	1.27		

Table 8.15

Effects of experience, situation and product on performance consistency

Awareness about the performance of different brands and models (1 = very sure, 7 = very sure)		
Situation	Experience	Score Mean
Rural	None	3.15
	Some	3.81
Tribal	None	2.95
	Some	2.42
Other	None	2.34
	Some	2.77
Product	Experience	
Refrigeration	None	2.26
	Some	2.85
Laundry	None	2.87
	Some	1.82

Analysis of variance					
Source	S.S.	d.f.	M.S.	F.	Prob. > F
Mean	2095.06	1	2095.06	3848.35	0.0000
Experience (P)	1.54	1	1.54	0.00	0.9719
Situation (S)	12.77	2	6.38	0.50	0.6100
Product (Q)	22.64	1	22.64	12.31	0.0005
P x S	12.16	2	6.08	0.74	0.6442
P x Q	12.93	1	12.93	4.47	0.0313
S x Q	11.26	2	5.62	0.50	0.6658
P x S x Q	10.45	2	5.22	0.70	0.6884
Error	892.84	480	1.86		

Table 6.10

Effects of experience, situation and product on consideration uncertainty

(Anomalous about the most important considerations you were going to use to make your purchase choice
(1 = very rare, 7 = very common))

Situation	Experience	Group Means
None	None	2.41
	Some	1.82
Partially	None	2.80
	Some	1.99
Other	None	1.99
	Some	2.06

Analysis of variance

Source	SS	df	MS	F	p level
Page	1435.22	1	1435.22	1208.56	0.0000
Experience (P)	2.29	1	2.29	1.93	0.1668
Situation (S)	2.13	2	1.07	0.90	0.4079
Product (D)	2.39	1	2.39	2.01	0.1550
P x S	14.89	2	7.44	6.17	0.0013
P x D	1.92	1	1.92	1.62	0.2058
S x D	2.21	2	1.10	0.93	0.3999
P x S x D	6.28	2	3.14	2.63	0.0734
Error	561.06	471	1.19		

Table 8.12

Effects of experience, situation and product on brand choice consistency

Measurements about what brand to choose (1 = very sure, 7 = very unsure)	
Situation	Group means
None	2.87
Factors	2.76
Other	2.22
Product	
Refrigeration	2.46
Laundry	2.55

Analysis of variance

Source	S.S.	d.f.	M.S.	F	p-Value
None	1826.74	1	1826.74	1884.82	0.0000
Experience (E)	2.94	1	2.94	1.42	0.1972
Situation (S)	18.86	2	9.43	9.38	0.0049
Product (P)	26.21	1	26.21	14.82	0.0001
E x S	3.80	2	1.90	1.86	0.3911
E x P	2.32	1	2.32	1.22	0.1040
S x P	5.02	2	2.51	2.29	0.2461
E x S x P	2.22	2	1.10	0.88	0.5340
Error	865.38	480	1.79		

Table 8.14

Effects of experience, situation product on model choice uncertainty

Uncertainty about what model to choose (1 = very sure, 7 = very unsure)	
Situation	Group means
None	2.24
Failure	2.41
Other	2.34

Analysis of variance					
Source	S.S.	d.f.	M.S.	F	p-Value
None	2158.14	1	2158.14	1945.34	0.0000
Experience (P)	1.87	1	1.87	0.16	0.6918
Situation (S)	10.40	2	5.20	0.46	0.6308
Product (X)	0.39	1	0.39	0.35	0.5594
P x S	2.68	2	1.34	1.19	0.3103
P x X	3.22	1	3.22	2.87	0.1004
S x X	0.09	2	0.04	0.42	0.8550
P x S x X	0.48	2	0.24	0.21	0.8083
Error	847.85	681	1.25		

Table B.16

Effects of experience, situation and product on store uncertainty

Uncertainty about which stores to shop at (1 = very sure, 7 = very unsure)					
Situation		Group means			
None		2.18			
Failure		5.28			
Order		1.56			
Analysis of variance					
Source	S.S.	d.f.	M.S.	F	p-value
Mean	1047.20	1	1047.20	1836.98	0.0000
Experience (7)	1.87	1	1.867	0.02	0.3619
Situation (3)	8.49	2	4.22	3.26	0.0393
Product (3)	2.68	1	2.68	0.45	0.5029
E x S	8.35	2	4.18	0.53	0.5814
E x P	8.62	1	8.62	0.47	0.4973
S x P	2.88	2	1.44	0.18	0.4862
E x S x P	3.88	2	1.93	1.33	0.2665
Error	626.67	481	1.30		

There was a $F(4, 5)$ interaction effect on consideration uncertainty (see Table 8.12). The inexperienced buyers purchasing because of a residential move were more uncertain about the important considerations in making the purchase.

In summary, the predicted impact of a residential move on prior uncertainty seems to be supported. H_2 suggested that those purchasing because of a residential move will be less sure about where to shop. It appears that buyers in these circumstances are generally more uncertain both in terms of product knowledge and shopping intentions. The product failure situation appeared to have very little impact on prior uncertainty. In particular it did not, as might be expected, increase brand choice or model choice uncertainty. The main effect of experience on knowledge and intention uncertainty as suggested by H_3 was not supported in the P/S/O model analyses.

The awareness of the college educated was contrasted with that of the older buyers (see Table 8.14). The higher educated were generally less sure about their product knowledge and prior intentions. They were particularly less certain about product performance, brand choice and where choice. These three univariate tests were also significant in the appropriate P (education)/S/O alternating tests.

Relative Hypotheses

It was believed that appliance failure would reduce search interest and motivation, that replacing a still operating appliance would lead to greater interest in obtaining the latest technology and that inexperience would lead to greater interest in learning new things. These hypotheses were only partially supported.

Table 8.16
Effect of adaption on uncertainty

Area uncertain about	No. of/age	Collage
The features that were available	2.16	2.21
The performance of the different brands and models	2.43	2.21 **
The most important considerations you were going to use to make your purchase choice	2.53	2.56
What brand to choose	2.30	2.72 **
What model to choose	2.42	2.68 *
Which dealer to shop at	1.90	2.23 **

1 = very sure, 5 = very unsure

Null/unknown $\chi^2 = 0.0014$, Residual $\chi^2 = 36.78$

$\chi^2_{0.005} = 5.024$, $p < 0.0005$

* $p < 0.05$, ** $p < 0.01$

Tables 8.17, 8.18 and 8.19 present comparisons of these different groups of buyers' responses to the six interest and motivational measures. These tests ignore all other effects. The contrasts of the situational circumstances were not significant. The only univariate test that was significant suggested that failure-forced circumstances increased agreement with the statement "I wanted to spend as little time as possible". The inexperienced buyers did appear to possess a different motivational profile. They were more interested in enjoying the shopping for its own sake while the experienced shoppers were more interested in spending as little time as possible.

The six PLS/PLS interactionist analyses again exposed the superficiality of step's 1 type tests that fail to take into consideration interaction effects and that do not discriminate between genuine and spurious associations. Tables 8.20 and 8.21 indicate that appliance-failure circumstances reduce interest in learning new things and increase interest in making the purchase quickly. Two of the five relationships proposed by H_{10} were supported. A third was partially supported. Table 8.22 indicated the buyers replacing a failed refrigerator were much less interested in enjoying the shopping for its own sake. However, product failure did not have a similar effect on the enjoyment motivation of the buyers of a laundry appliance.

Efforts to find out what might be wrong or go wrong with the models looked at were expected to be greater amongst those replacing a failed appliance. These buyers are not only under greater time-pressure (which was expected to increase the emphasis on negative product characteristics) but also, as a result of the replacement circumstances were likely to be more sensitive to product reliability questions. The buyers in this

Table 8.17

Effect of failure-forced purchase circumstances on interests and applications

Group mean agreement— 1 = 5 agree, 7 = 5 disagree	Other Circumstances	Failure Circumstances
I wanted to learn new things about appliances	3.34	3.35
I made a real effort to find out what might be wrong or go wrong with the models I was looking at, rather than just what might be right	3.79	3.85
I wanted to enjoy the shopping and information seeking for its own sake because it was interest- ing	4.23	4.56
I was interested in technical details	3.66	3.71
I wanted to obtain the most modern technology in my new appliance	3.13	3.20
I wanted to spend as little time as possible	3.51	3.61 **

Relationships: $R^2 = 0.0981$, Adjusting $R^2 = 0.0000$

$F_{4,466} = 1.4316$, $p = 0.036$

** $p < 0.01$

Table 8.38

effect of residential move purchase circumstances on
interests and motivations

Group mean agreement: 1 = 5... agree, 7 = 5... disagree	Residential move Circumstances	Other Circumstances
I wanted to learn new things about appliances	3.08	3.03
I made a real effort to find out what might be wrong or go wrong with the model's I was looking at, rather than just what might be right	3.80	3.35
I wanted to enjoy the shopping and information learning for its own sake because it was interest- ing	4.20	4.38
I was interested in technical details	3.78	3.63
I wanted to obtain the most modern technology in my new appliance	3.30	3.65
I wanted to spend as little time as possible	3.45	3.78

MANCOVA: $F^2 = 8.0578$, nonpooled $T^2 = 4.5487$

$F_{8,488} = 1.0886$, $p = 0.373$

$\eta^2 = 0.05$

Table 8.18

Effect of shopping experience on interests and activities

Group mean agreement (1 = 3; agree, 2 = 1; disagree)	No shopping experience	Some shopping experience
I wanted to learn new things about appliances	2.55	3.19
I made a real effort to find out what might be wrong or go wrong with the models I was looking at, rather than just what might be right	2.79	2.80
I wanted to enjoy the shopping and information seeking for its own sake because it was interest- ing	3.35	4.40**
I was interested in technical details	3.20	3.64
I wanted to obtain the most modern technology in my new appliance	3.15	3.89
I wanted to spend as little time as possible	3.71	3.32**

Kruskal-Wallis $\chi^2=6.9282$, Retaining $T^2 = 75.2110$ $F_{(3,428)} = 8.7344$, $p = 0.0000$ ** $p<0.01$

Table 8.20

Effects of experience, situation and product on learning motivation

Agreed they wanted to learn new things about appliances
(1 = strongly agree, 7 = strongly disagree)

Situations

None	3.09
Failure	3.35
Other	3.33

Analysis of Variance

Source	S.S.	d.f.	M.S.	F	1st Probability
None	3214.58	1	3214.58	1173.87	0.0000
Experience (P)	4.39	2	2.20	0.79	0.4788
Situation (S)	18.23	2	9.11	3.32	0.0366
Product (Q)	2.75	1	2.75	0.99	0.3252
P x S	8.39	4	2.10	0.67	0.6338
P x Q	1.63	2	0.81	0.29	0.8253
S x Q	4.58	2	2.29	0.83	0.4349
P x S x Q	13.56	4	3.39	1.24	0.2946
Error	1305.28	478	2.74		

purchase situation did not, however, indicate significantly greater agreement with the statement that they had sought to identify what might be wrong or go wrong with the model's rationale (see Table 8.20). If anything, the trend was for the buyers with the most time (i.e., those replacing a still operating appliance) to indicate they undertook a slower scrutiny of the options. . . . Situation circumstances did influence interest in obtaining the latest technology. The shoppers replacing a still operating appliance were more interested in obtaining the latest technology (see Table 8.24). This supports H_{11} . The buyers least interested in obtaining the latest technology were those buying because of a residential move and not those replacing a failed appliance.

The inexperienced buyer, on average, did not indicate greater interest in learning new things about appliances (H_{12}). Experience did have an effect on desire to enjoy the shopping, interest in technical information and desire to obtain the most modern technology. Those with some experience (1 - 2 previous purchases) were least interested in enjoying themselves and those with the most experience (3 plus previous purchases) were most interested in technical details and obtaining the latest technology (see again 8.22, 8.23 and 8.24).

Higher education clearly influenced shopper uncertainty but it did not increase agreement with the shopping interest and motivation statements (see Table 8.26). The appropriate OP education/PC stimulating tests also failed to reveal a significant education effect on any of these measures.

Table A.25

Effects of experience, situation and product on desire to avoid Type 1 risk

Agreed they made a real effort to find out what might be wrong or go wrong with the models I was looking at, rather than just what might be right...

(1 = strongly agree, 5 = strongly disagree)

Situation

None 2.82

Failure 2.88

Other 2.87

Analysis of Variance

Source	1,1	4,1	9,1	1	Total grade available
None	2444.58	1	2444.58	417.58	0.0000
Experience (P)	0.84	2	0.33	0.32	0.847
Situation (S)	4.98	2	2.29	1.20	0.3014
Product (Q)	0.21	1	0.21	0.02	0.3661
P x S	30.31	4	6.98	1.09	0.7112
P x Q	1.13	2	0.57	0.21	0.6104
S x Q	1.28	2	0.63	0.23	0.7408
P x S x Q	15.54	4	3.89	1.45	0.2774
Error	1279.58	476	2.68		

Table 8.22

Effects of experience, situation and product on enjoyment motivation

Agreed they wanted to enjoy the shopping and information seeking for its own sake because it was interesting. (1 = strongly agree, 7 = strongly disagree)					
			Refrigeration	Laundry	
Situation					
	Mean		4.25	4.38	
	Failure		5.11	4.34	
	Other		3.88	4.57	
Experience					
	None		5.51		
	1 - 2		4.88		
	3 +		4.34		
Analysis of variance					
Source	1, 5	4, 4	8, 8	F	Tail probability
Mean	4095.45	1	4095.45	1471.68	0.0000
Experience (r)	22.43	2	77.82	3.44	0.0026
Situation (s)	14.35	2	4.18	0.57	0.0804
Product (p)	9.79	1	6.15	0.85	0.3294
P x S	12.68	4	3.37	1.04	0.3886
P x E	3.60	2	1.97	0.60	0.5432
S x E	28.35	2	70.13	3.71	0.0454
P x S x E	18.41	4	5.66	1.78	0.2119
Error	1558.97	435	3.58		

Table 3.23

Effects of experience, situation and product on interest in technical details

Agreed they were interested in technical details
(1 = strongly agree, 7 = strongly disagree)

Experience

Mean	3.60
1 = 3	3.78
3 =	3.12

Analysis of variance

Source	S.S.	d.f.	M.S.	F	Total probability
Mean	4023.53	1	4023.53	1226.79	0.0000
Experience (2)	28.63	2	14.32	4.40	0.0238
Situation (2)	0.80	2	0.40	1.21	0.3119
Product (2)	8.48	1	8.48	0.13	0.7192
P x S	3.63	4	0.91	0.28	0.8919
P x E	7.90	2	3.95	1.21	0.2992
S x E	1.56	2	0.78	0.24	0.7608
P x S x E	8.21	4	2.05	0.63	0.6413
Error	1546.27	438	3.53		

Table 8.38

Effects of experience, situation and product on desire to avoid
type 2 risk

Agreed they wanted to obtain the next modern technology	
(1 = strongly agree, 7 = strongly disagree)	
Situation	
None	5.33
Failure	5.20
Other	2.93
Experience	
None	5.10
1 - 2	3.33
3 +	2.40

Analysis of Variance

Source	S.S.	d.f.	M.S.	F	Tab prob- ability
None	2582.76	1	2582.76	1294.80	0.0000
Experience (P)	22.61	2	11.30	4.73	0.0202
Situation (S)	15.52	2	7.76	4.00	0.0334
Product (O)	1.46	1	1.46	0.69	0.4075
P x S	18.34	4	4.59	1.90	0.0900
P x O	6.64	2	3.32	1.65	0.1968
S x O	6.37	2	3.19	1.58	0.1945
P x S x O	10.83	4	2.70	1.14	0.3507
Error	1126.60	476	2.37		

Table 8.28

Effects of experience, situation and product on quick-purchase motivation

Agreed they wanted to spend as little time as possible (1 = strongly agreed, 2 = strongly disagreed)					
Situation					
	New			3.48	
	Failure			3.00	
	Other			3.54	
Analysis of Variance					
Source	S.S.	d.f.	M.S.	F	Full prob. value
New	3444.24	1	3444.24	1011.04	0.0000
Experience (P)	17.34	2	8.67	2.55	0.0888
Situation (S)	25.21	2	12.60	3.68	0.0290
Product (R)	9.83	1	9.83	2.91	0.0914
P x S	28.89	4	7.22	2.18	0.1026
P x R	3.43	2	1.72	0.50	0.6060
S x R	18.44	2	9.22	2.72	0.2747
P x S x R	3.04	4	0.77	0.22	0.9240
Error	1420.32	476	3.00		

Table 1 (B)

Effect of education on interests and motivations

Group mean comparison: 1 = S. agnost, 2 = S. disbeliever	No. College	College
I wanted to learn new things about appliances	3.12	3.75
I made a real effort to find out what might be wrong or go wrong with the models I was looking at, rather than just what might be right	2.84	2.48
I wanted to enjoy the shopping and information seeking for its own sake because it was interest- ing	4.22	4.48
I was interested in technical details	3.66	3.82
I wanted to obtain the most modern technology in my new appliance	3.15	3.24
I wanted to spend as little time as possible	3.28	3.38

MANCOV's $\eta^2 = 0.0288$, Hotelling's $T^2 = 0.4140$ $F_{8,130} = 1.5550$, $p = 0.188$ * $p < 0.05$

Choice Strategy

It was expected that inexperienced buyers would rely more on new information and others' advice rather than rely on their past experience in making their choice (H_{1a}), and that shoppers buying because of a residential move would rely more on others' advice in making their choice (H_{1b}). Table 4-27 presents the simple cross-tabulations that seem to confirm these hypotheses. Unfortunately the relationships were not as simple as these tables indicate. Experience, situation and the nature of the product have interactive effects on the likelihood that new information or others' advice will dominate past experience in making the choice, or vice versa.

Table 4-28 indicates that the inexperienced more often relied on new information in making the purchase of a refrigeration appliance when they were purchasing because of a residential move or when they were replacing a still functioning refrigeration appliance. Product failure dramatically moderated this effect. In this circumstance the inexperienced, like the experienced, mostly relied on their past experiences to make the choice. Turning to the laundry buyers, there was a quite surprising interaction effect between situation and experience. The inexperienced more often relied mostly on new information in residential move circumstances but less often relied mostly on new information when replacing a still functioning appliance. The reverse was true for the most experienced laundry buyers. They were much more likely to use new information in this situation.

The inexperienced tended to rely more often than the experienced on others' advice, except for the inexperienced laundry shopper who was replacing a still operating appliance. She again mostly relied on her

Table 9.10

Effects of experience and situation on choice strategies

	I also agreed they mostly relied on new information obtained in shopping and information search to make choice	I also agreed they mostly relied on past experience and knowledge to make choice
<u>Experience</u>		
None	66.4%	53.2%
1-2	23.7%	34.3%
3+	74.9%	64.5%
		$P = 0.0000$
<u>Situation</u>		
None	35.1%	64.3%
Failure	33.3%	70.8%
Other	33.3%	64.7%
		$P = 0.0037$
	I also agreed they mostly relied on other people to give advice as to what to buy	I also agreed they mostly relied on past experience and knowledge to make choice
<u>Experience</u>		
None	52.3%	42.7%
1-2	39.8%	70.2%
3+	74.8%	87.2%
		$P = 0.0000$
<u>Situation</u>		
None	42.3%	67.8%
Failure	25.3%	34.8%
Other	33.0%	47.8%
		$P = 0.0011$

Table 8.28

Effects of experience, situation and product on choice strategy

Product	Situation	Experience	Relied on new information	Relied on experience
Freezing	None	None	27.20	27.20
		1 - 2	23.0	23.0
		3 +	17.7	23.3
	Failures	None	26.0	26.0
		1 - 2	25.0	20.0
		3 +	16.3	23.3
	Other	None	22.5	17.5
		1 - 2	25.2	19.8
		3 +	12.5	27.5
Laundry	None	None	24.2	45.8
		1 - 2	28.3	71.3
		3 +	0.0	100.0
	Failures	None	10.4	70.4
		1 - 2	12.5	80.4
		3 +	15.0	60.0
	Other	None	3.1	52.5
		1 - 2	12.1	82.0
		3 +	50.0	50.0

Effect	Transacting test No. probability	Marginal test No. probability
experience (P)	0.0008	0.0008
situation (S)	0.0008	0.0007
Product (D)	0.0150	0.0008
P x S	0.0757	0.0600
P x D	0.1440	0.1171
S x D	0.2443	0.2208
P x S x D	0.0008	

Table 8.29

Effects of experience, situation and product on choice strategy

			Based on advice	Based on experience
Product	Situation	experience		
Freezing	None	None	85.11	58.95
		1 - 2	26.2	73.8
		3 +	21.7	48.5
	Failure	None	67.0	58.0
		1 - 2	7.4	82.4
		3 +	25.0	75.0
	Other	None	54.2	45.0
		1 - 2	32.3	62.2
		3 +	12.5	67.5
Laundry	None	None	66.7	23.0
		1 - 2	43.8	56.2
		3 +	0.0	100.0
	Failure	None	26.7	44.3
		1 - 2	25.4	24.8
		3 +	11.8	88.2
	Other	None	15.4	34.8
		1 - 2	20.0	60.0
		3 +	10.0	62.5
Effect			Effecting test No. probabilities	Maximal test No. probabilities
Experience	(F)	0.0000	0.0000	
Situation	(C)	0.0000	0.0000	
Product	(D)	0.0002	0.1378	
P < 5		0.1985	0.8888	
P < 0		0.0000	0.1508	
3 < 0		0.0042	0.0808	
P < 5 & 0		0.0004		

past experience in making the choice. On the other hand, the very experienced laundry layer again showed a greater tendency to rely on others' advice when replacing a still operating appliance. In summary, although H_{1A} and H_{1B} are supported the relationships they suggest are subject to the influence of other determinants.

Search Scope: Breadth

It was hypothesized that the search scope of those replacing a failed appliance would be narrower than that of buyers under the other two situations and that there would be no difference between the other two groups' breadth of search. The search scope of the experienced shopper was also expected to be narrower and the search scope of the refrigerator buyer, wider. Ignoring the other determinants Table 3.10, 3.11, 3.12, and 3.13 present the contrast group means that tend to support H_{1A} , H_{1B} , H_{1C} and H_{1D} . However, consistent with the previous findings, the PLS/PLS analysis presents a more complicated web of relationships between the various measures of search scope and the three determinant effects.

The residential move situation and inexperience combined interactively to increase the number of brands considered (see Table 3.14). The product failure situation appears to reduce the number of brands considered only amongst the experienced. The eliminating task of the product sale effect was, however, significant. Buyers of refrigerators and freezers have a larger evoked set size than buyers of washers and dryers.

The number of stores stopped at is straightforward, each of the main effects being significant (see Table 3.15). Inexperience increases the number of stores stopped, previous product failure

Table 8-30
Effect of failure-forced circumstances on search scope

	<u>Other situations</u>	<u>Failure-Forced Situations</u>
Number of stores stopped	2.74	2.25 **
Number of levels considered	2.64	2.21 *
Number of different		
sources considered	3.47	2.91 **
sources consulted	2.85	2.24 *
Commercial sources consulted	2.81	1.84
Independent sources consulted	3.47	3.30 **
Personal sources consulted	1.67	1.78
Specialist sources consulted	1.49	1.12 **
Radio advertising sources consulted	3.30	3.47 **
Written nonadvertising sources consulted	3.99	3.79 *
Sources found useful	2.11	1.63 *

MANCOVA $\eta^2 = 0.0960$, Hotelling's $T^2 = 32.4383$

$F_{(8,327)} = 4.0014$, $p < 0.005$

* $p < 0.05$, ** $p < 0.01$

Table B.21

Effect of residential/move circumstances on search scope

	Apprentice/move situation	Other situation
Number of stores stopped	2.43	2.85
Number of brands considered	2.53	2.35
Number of different		
Sources considered	3.43	3.39
Sources consulted	2.43	2.73
Commercial sources consulted	1.38	2.08
Independent sources consulted	8.71	6.43
Personal sources consulted	1.08	1.07
Organizational sources consulted	1.55	1.48
Radio advertising sources consulted	0.87	0.73
Written non-advertising sources consulted	0.87	0.83
Sources found useful	2.13	2.18
Relationships $d^2 = 0.0771$, Rotating $r^2 = 7.1234$		
$r_{0.345} = 0.883$, $p = 0.000$		

Table 8-30

Effect of shopping experience on search scope

	No shopping experience	Some shopping experience
Number of stores shopped	2.62	2.40 **
Number of brands considered	2.55	2.35 **
Number of different		
Sources considered	3.34	3.00 **
Sources consulted	2.88	2.58 **
Commercial sources consulted	2.17	1.85 **
Independent sources consulted	6.71	6.55 **
Personal sources consulted	1.59	1.84 *
In-personal sources consulted	1.48	1.38 **
Media advertising sources consulted	0.75	0.59
Written nonadvertising sources consulted	0.58	0.77 **
Sources found useful	2.24	1.81 **

Relationships $\rho^2 = 0.1655$, controlling $r^2 = 0.2207$ F_{8,118} = 2.8335, p = 0.008

* p < 0.05, ** p < 0.01

Table 8.33
Effect of appliance type on search scope

	Refrigerator/ freezer	Washer/ dryer
Number of stores shopped	2.10	2.31 **
Number of brands considered	2.50	2.52 **
Number of different		
Sources considered	2.58	2.54
Sources consulted	2.6	2.5
Commercial sources consulted	2.02	1.87
Independent sources consulted	0.58	0.64
Personal sources consulted	1.05	1.55
Impersonal sources consulted	1.58	1.36
Public advertising sources consulted	0.66	0.69
Written non-media sources consulted	0.48	0.73
Sources found useful	2.07	1.85
Relationships: $R^2 = 0.1115$, $\text{Holtzcllug } F^2 = 0.4165$		
$F_{8,144} = 26.43$, $p = 0.000$		
* $p < 0.05$, ** $p < 0.01$		

Table B.34

Effects of experience, situation and product on number of brands considered

		<u>Grand Mean</u>
<u>Product</u>		
	Refrigeration	2.58
	Laundry	2.12
<u>Experience</u>	<u>Situation</u>	
None	None	2.54
	Failure	2.28
	Other	2.52
Some	None	2.30
	Failure	2.76
	Other	2.26

<u>Analysis of Variance</u>					
<u>Source</u>	<u>S.S.</u>	<u>d.f.</u>	<u>M.S.</u>	<u>F</u>	<u>Fail prob- ability</u>
Mean	2141.81	1	2141.81	1472.48	0.0000
Experience (P)	3.68	1	3.68	2.64	0.1166
Situation (S)	19.85	2	9.92	6.79	0.0047
Product (O)	19.46	1	19.46	13.73	0.0019
P x S	8.59	2	4.29	2.98	0.0877
P x O	3.82	1	3.82	2.66	0.1079
S x O	2.39	2	1.20	0.87	0.4402
P x S x O	2.76	2	1.38	0.94	0.4290
Error	367.74	182	2.02		

Table 8.35

Effects of experience, situation and product on number of stores dropped

<u>Grand Means</u>					
<u>Experience</u>					
	None			2.12	
	Some			2.49	
<u>Situation</u>					
	None			2.42	
	Failures			2.27	
	Other			2.45	
<u>Product</u>					
	Refrigeration			2.79	
	Laundry			2.32	
<u>Analysis of Variance</u>					
<u>Source</u>	<u>d.f.</u>	<u>S.S.</u>	<u>M.S.</u>	<u>F</u>	<u>Total error- adj. d.f.</u>
None	2949.87	1	2949.87	859.58	8.0000
Experience (1)	17.89	1	17.89	5.32	8.0443
Situation (3)	19.63	2	9.81	3.28	8.0268
Product (2)	12.64	1	12.64	4.15	8.0402
F x E	7.66	2	3.82	1.27	8.3448
F x S	2.75	1	2.75	0.71	8.3468
S x E	8.99	3	2.99	0.82	8.3576
F x S x E	4.44	2	2.22	0.73	8.4408
Error	1681.32	523			

reduced the number of stores shopped and a residential move situation, on average, results in the most number of stores shopped). The refrigeration appliance buyers also shop at more stores than the laundry appliance buyers. The PLSQ analysis of shopping time was, as might be expected, similar to that for the number of stores shopped except for a rather peculiar marginal 1 x 3 effect (see Table 8.26). Part of this effect is attributable to a tendency for those buying a refrigerator or freezer because of a residential move to shop longer hours but the major reason for the effect was that an unexpectedly high percentage (55%) of those replacing a still operating laundry appliance spent less than two hours shopping.

The dominant general characteristics of the PLSQ analysis of the consideration, consulting and focal usefulness of the various combinations of different information sources was a three-way interactive effect (see Appendix B). When the purchase was failure-forced the inexperienced refrigerator or freezer buyer considered, consulted and found useful fewer types of sources than the equivalent buyer of a washer or dryer. In short, the failure situation had a more acute impact on the use of sources of information by inexperienced refrigerator buyers. However, when the purchase was made because of a residential move or in other circumstances (i.e., the current appliance was still operating) the inexperienced refrigerator/freezer buyer considered, consulted and found useful a wider range of information sources. In particular she consulted a wider range of commercial sources, impersonal sources and non-advertising, written sources (i.e., catalogs, brochures and labels and Consumer Reports). Experience weakened the above situation-product interaction effect on the number of different sources considered

Table 8.28

EFFECTS of experience, situation and product on actual shopping time

Experience		Less than 2 hrs(1)	2 - 4 hrs	5+ hrs	
	Age	29.15	35.85	38.05	
	1 - 2	49.2	30.8	24.7	
	3 +	68.3	19.8	24.7	
Situation	Product				
	Home	Refrigeration	26.85	25.25	25.05
		Laundry	40.8	30.3	25.8
	Family	Refrigeration	40.25	27.25	26.25
		Laundry	59.0	32.4	17.8
	Store	Refrigeration	38.85	27.85	23.25
		Laundry	45.8	19.3	22.8

Effects	Dichotomizing level (See appendix 11.12)	Marginal test (See appendix 11.12)
Experience (P)	0.5011	0.0040
Situation (S)	0.0486	0.0088
Product (O)	0.0087	0.0050
P x S	0.8088	0.8284
P x O	0.3605	0.4750
S x O	0.0479	0.0876
P x S x O	0.3018	

and consulted. Amongst the experienced buyers there appeared to be a simple situation main effect. The failure-forced circumstances reduced the experienced buyers' consultation and consultation of different sources. It should be noted that the F/UO model when fitted to the number of different personal sources consulted (neighbour, friend or relative and salesperson) and number of different advertising sources consulted (newspaper, magazine and TV etc.) did not produce any significant main or interaction effects. The breadth of use of these two types of sources seems to be independent of experience, purchase situation and the nature of the product.

Education had a significant main effect on all of the breadth of search measures except the number of different personal sources consulted (see Table 5.37). In particular the higher educated consulted a greater range of non-advertising written sources of information ($F_{1,22}$). Substituted for experience in the F/UO framework, education maintained its significant effect on the number of brands initially considered, stores shopped and different types of sources consulted.

Individual Sources of Information Utilised

The inexperienced shopper more often read a computer advertisement and buyers replacing a failed appliance less often read a newspaper advertisement (see Table 5.38). The replacement main situation did not appear to increase the use of newspaper advertising ($F_{1,22}$). The exposure to negative advertising was also influenced by situation. Those replacing a still operating appliance most frequently used this source. The buyer in the failure-forced replacement circumstance least often read a negative advertisement (see Table 5.38). Consultation of a catalog was influenced by experience

Table 8.17
Effect of algorithm on search scope

	No. Calls/ops	Call/ops
Number of stores stopped	2.42	2.82 **
Number of levels considered	2.21	2.76 **
Number of different:		
Sources considered	1.67	1.82 **
Sources consulted	2.48	3.08 **
Commercial sources consulted	1.47	2.18 *
Independent sources consulted	0.82	0.88 **
Personal sources consulted	1.82	1.18
Impersonal sources consulted	1.23	1.85 **
Media advertising sources consulted	0.92	2.28 **
Written non-media sources consulted	0.75	1.08 **
Sources found useful	1.88	2.26 **

Relationships: $r^2 = 0.3883$, correlating $T^2 = 40.5429$

$$F_{8,343} = 4.0967, \quad p=0.0005$$

* $p<0.05$, ** $p<0.01$

Table 2.30

Effects of experience, situation and product on reading a newspaper ad

Read a newspaper ad		
Experience		
None		57.75
1 - 2		64.9
3 - 4		68.8
Situation		
None		63.45
Partners		59.4
Other		54.5
Effect	df	Mean Sq
Experience (P)	2	10.833
Situation (S)	2	10.833
Product (G)	2	10.833
P x S	4	10.833
P x G	4	10.833
S x G	4	10.833
P x S x G	8	10.833

Table B.29

Effects of experience, situation and product on meeting a negative ad

Situation	Fixed a negative ad	
	Yes	No
None	27.4%	
Failure	28.9	
Other	26.9	

Effect	Wilcoxon test for probability	Marginal test for probability
Experience (P)	0.5870	0.5267
Situation (S)	0.8138	0.8137
Product (O)	0.5049	0.4940
P x S	0.9447	0.8739
P x O	0.5075	0.4959
S x O	0.5529	0.5548
P x S x O	0.4887	

(see Table 8.40) but it was not influenced by situation, product or education. Situation, product and education did however, influence the consulting of manufacturers' brochures and labels (see Table 8.41 and Table 8.42). There were no significant interaction effects. Brochures and labels were significantly less often consulted in product failure circumstances and by those purchasing a laundry appliance. Buyers with some college education were almost 50% more likely to have consulted a brochure or label than buyers with no college education.

The reported incidence of consulting Consumer Reports was not related to experience, situation or any of its interactions. It was also not related to any of the components of a P/D/S model where income was substituted for experience. This means there is no evidence that the higher income households consult a professional search service more often than low income households (H_{24}). Higher education however, is related to the consulting of Consumer Reports (see Table 8.43) and hence H_{25} required further support.

Situation, not surprisingly, determined whether a repairman was consulted (see Table 8.44). Shoppers were especially more likely to consult a repairman when buying a laundry appliance.

The consulting of a salesperson was influenced by an experience/product interaction. The buyer replacing a still/operating laundry appliance less frequently consulted a salesperson (see Table 8.45). Last and not least, the consultation of a friend or relative was influenced by experience, situation and the nature of the appliance (see Table 8.46). The inexperienced more often consulted a friend or relative and those replacing a failed appliance less often consulted a friend or relative. There was little strong evidence that those

Table 8-40

Effects of experience, situation and product on consulting a catalog

Experience	Consulted catalog	
	None	40-95
1 = 3	30.3	
3 =	39.3	

Effects	Chi-square test No. probabilities	Marginal test No. probabilities
Experience (P)	0.0071	0.0071
Situation (S)	0.3676	0.3790
Product (Q)	0.4816	0.5071
P x S	0.3337	0.3617
P x Q	0.4716	0.5016
S x Q	0.3056	0.3779
P x S x Q	0.3708	

Table 1.41

Effects of experience, situation and product on consulting brochures and labels

<u>Consulted brochures & labels</u>		
<u>Office Work:</u>		
None	28.85	
Failure	55.4	
Other	33.3	
<u>Products:</u>		
Refrigeration	31.76	
Laundry	21.3	
<u>Effect</u>	<u>Finding (sig. level on probability)</u>	<u>Marginal test on probability</u>
Experience (F)	0.4238	0.2715
Situation (F)	0.0044	0.0108
Product (F)	0.0961	0.0408
F x S	0.7005	0.0087
F x P	0.0060	0.1773
S x P	0.0478	0.2089
F x S x P	0.4038	

Table 8.48

Effects of education, situation and product on consulting brochures and labels

Education		Consulted manufacturers' brochures and labels
None		20.01
High		18.4
Other		22.3
Education		
No college		24.45
College		20.4
Effect	Chi-square test No. probabilities	Marginal test No. probabilities
Education (P)	0.0041	0.0036
Situation (S)	0.0005	0.0006
Product (Q)	0.0004	0.0004
P x S	0.0000	0.0003
P x Q	0.0000	0.0011
S x Q	0.0029	0.0005
P x S x Q	0.0001	

Table B-43

Effects of education, situation and product on consulting Consumer Reports

Effect	Education	Consulted Consumer Reports
	No college	13.58
	College	28.28

Effect	Chi-square test for probability	Marginal test for probability
Education (F)	0.0000	0.0000
Situation (S)	0.0001	0.1889
Product (B)	0.0000	0.4394
F x S	0.7181	0.7042
F x B	0.6687	0.7581
S x B	0.2889	0.4053
F x S x B	0.0019	

Table B.64

Effects of experience, situation and product on consulting a repairman

Situation		Consulted a repairman	
	None	1.40	
	Failure	11.5	
	Other	11.5	
Effect		Probability test	Marginal test
		Pr. probability	Pr. probability
Experience	(P)	0.7805	0.4355
Situation	(S)	0.0000	0.0000
Product	(Q)	0.0012	0.0012
P x S		0.1634	0.1795
P x Q		0.0050	0.0155
S x Q		0.0007	0.0007
P x S x Q		0.0009	

Table 8.48

Effects of experience, situation and product on consulting satisfaction

<u>Consulting Satisfaction</u>		
<u>Situation</u>	<u>Product</u>	
None	Refrigeration	58.95
	Laundry	62.7
Fathers	Refrigeration	49.75
	Laundry	48.5
Other	Refrigeration	58.75
	Laundry	76.8

<u>Effect</u>	<u>Criterion: task re. probability</u>	<u>Response: task re. probability</u>
Experience (F)	0.0403	0.0042
Situation (S)	0.1178	0.1097
Product (C)	0.1539	0.1011
F x S	0.7087	0.0002
F x C	0.6830	0.0438
S x C	0.3268	0.0002
F x S x C	0.0015	

Table 8.46

Effects of experience, situation and product on consulting friend or relative

	Consulted friend	
Experience		
None	48.75	
1 - 2	56.5	
3 +	76.5	
Situation		
Move	60.00	
Failure	50.5	
Other	41.5	
Product		
Refrigeration	56.65	
Laundry	45.5	
Effect	Stratification test No. probabilities	Permutation test No. probabilities
Experience (F)	0.0012	0.0009
Situation (S)	0.0047	0.0019
Product (P)	0.0045	0.1100
F x S	0.4764	0.4400
F x P	0.7008	0.8880
S x P	0.0080	0.1710
F x S x P	0.0780	

purchasing because of a residential move were more often consulted new friends or relatives than buyers in both of the other conditions (H_{22}). The effect of appliance type was also not in the expected direction. Those buying a laundry appliance were more likely to consult a friend or relative than those purchasing a refrigerator. This is perhaps due to the special function that friends or relatives (particularly a mother) play in advising about how to best wash and dry clothes and what type of laundry appliance should be purchased. Finally, when substituted for experience in the R/S/O model (see Table 8-47) did not significantly relate to the incidence of consulting friends or relatives (H_{24}).

Store Shopping Hypotheses

Buyers replacing a failed appliance are less likely to shop at a discount store (H_{25}) but they are also less likely to shop at all other types of stores except for the specialty appliance store (see Tables 8-48, 8-49 and 8-50). The buyers shopping as a result of a residential move are not more likely to shop at Sears (H_{26}) and as hypothesized (H_{27}) experienced buyers are not more likely to visit a specialty appliance store. The type of store where the purchase was actually made was not significantly influenced by any of the R/S/O effects (see Table 8-50). The trend, however, was for the more experienced to make a purchase at a specialty store and for those who were replacing a failed appliance to also more frequently purchase at a specialty store.

Purchase Hypotheses

Although those in the residential move purchase circumstances were more deliberate before shopping and shopped more, they did not turn out to be more likely to change their initial intentions (H_{28}) or more likely to purchase a brand different from that previously owned.

Table 3.47
Effects of income, situation and product on consulting a
friend or relative

Household Income		Consulted friend or relative	
under \$15,000		41.85	
\$15,000 plus		39.3	
Effect		Disseminating test by probability	Perceptual test by probability
Income	(F)	0.1626	0.2295
Situation	(N)	0.0015	0.0015
Product	(D)	0.0110	0.1123
F x S		0.4073	0.4603
F x D		0.1028	0.1462
S x D		0.1264	0.1715
F x S x D		0.2271	

Table 8.4b
Effect of experience, situation and product on visiting discount store

Situation	Visiting discount store
None	28.45
Failure	12.0
Other	29.4

Effect	Chi-square test on probability	Marginal test on probability
Experience (2)	8.3041	8.1366
Situation (3)	8.6927	8.0048
Product (3)	9.3792	8.6553
$P \times S$	0.3152	0.3739
$P \times O$	0.2808	0.3479
$S \times O$	0.2883	0.1743
$P \times S \times O$	0.1238	

Table 8-49

Effects of experience, situation and protocol on visiting hours

Situation	Visiting hours	
	Mean	SD
Home	67.26	
Patients	66.5	
Other	67.8	

Effects	Friedman's test on probabilities	Marginal test on probabilities
Experience (P)	0.2878	0.2713
Situation (S)	0.2194	0.2194
Protocol (X)	0.4703	0.9424
P x S	0.6247	0.7768
P x X	0.2819	0.3007
S x X	0.8467	0.9388
P x S x X	0.3242	

Table 8.80
Effect of experience, situation and product on visiting
specialty appliance store

Experience		Visited a specialty store
None		55.87
1 - 3		62.2
4+		58.5
Situation		
None		62.85
Future		55.8
Other		66.2
Product:		
Refrigeration		68.58
Laundry		54.2

Effect	Chi-square test on probabilities	Marginal test on probabilities
Experience (P)	0.3540	0.2013
Situation (S)	0.6485	0.3668
Product (R)	0.2937	0.7426
P x S	0.3103	0.8543
P x R	0.8125	0.7902
S x R	0.6087	0.6448
P x S x R	0.6876	

Table 8.51

Effects of experience, situation and product on store choice

Type of store purchase made at			
Experience	Appliance	General Merchandise	Other
None	23.00	41.00	34.40
1 - 2	38.0	40.0	37.0
3+	48.0	38.0	33.0
Situation			
None	25.40	41.00	33.40
Future	41.0	38.0	30.0
Other	33.0	41.0	35.0
Product			
Refrigeration	36.10	38.10	33.00
Laundry	35.0	40.0	33.0

Effects	F (ANOVA test No. probability)	Marginal test No. probability
Experience (P)	0.4345	0.3646
Situation (S)	0.2804	0.3790
Product (Q)	0.4006	0.8110
P x S	0.7188	0.1075
P x Q	0.8428	0.4764
S x Q	0.7611	0.8927
P x S x Q	0.4121	

brand loyalty did appear to be affected by an interaction of experience and situation (see Table 8.32). The buyers with more experience (3 or 4 previous purchases) were less likely to be brand loyal when making a failure-forced replacement purchase. However, the more experienced shopper (3 or more previous purchases) was more likely to be brand loyal when making a failure-forced replacement, indeed more than twice as loyal than when trading-up. Those buying a refrigerator or freezer less frequently fulfilled initial brand intentions than the buyers of washers and dryers (see Table 8.33). The inexperienced buyer did not turn out to be more likely to switch his or her initial intentions (H_{22}).

The hypothesis that failure-forced replacement purchases are less likely to be made at a sale price (H_{23}) was supported (see Table 8.34). The PLS framework was also used to attempt to explain the reasons for stopping shopping and post-purchase satisfaction. The buyers with considerable experience were more likely to stop shopping because they found exactly what they had wanted (see Table 8.35) and the buyers of washers and dryers were more likely to be very satisfied with their purchase than the buyers of refrigerators and freezers (see Table 8.36). Experience and purchase situation did not significantly influence the percentage of buyers who were very satisfied with their purchase.

Final Synthesis

Uncertainty and Intentional Synthesis

To replace the amount of analysis that would have been needed to fully explore the relationships between the uncertainty measures, self/other-intentional measures and behavior measures, the factor scores derived from the analyses presented in Chapter Seven were used instead of the actual measures. The relationships between the uncertainty

Table 8.52
Effects of experience, situation and product on brand loyalty

Experience	Situation	Bought same brand as previously used
1 + 2 previous purchases	None	37.4%
	Random	34.7
	Other	35.3
3+ previous purchases	None	42.0%
	Failure	44.7
	Other	39.1

Effect	Estimating test No. probability	Marginal test No. probability
Experience (F)	0.0008	0.0003
Situation (S)	0.4101	0.4991
Product (G)	0.2912	0.4345
F x S	0.0840	0.0261
F x G	0.0240	0.0118
S x G	0.9718	0.8940
F x S x G	0.4641	

Table 8.53

Effects of experience, situation and product on change in brand selection

	Adjusted initial brand selection	Changed brand selection
As Frigidaire/Freezer	45.45	38.45
Master/Owner	34.2	26.4

Effect	Ordinal logistic test for probability	Ordinal logistic test for probability
Experience (P)	0.4994	0.5029
Situation (S)	0.5341	0.5329
Product (C)	0.6340	0.6390
P x S	0.5147	0.6154
P x C	0.6040	0.6130
S x C	0.3093	0.3751
P x S x C	0.3167	

Table 8.50

Effects of experience, situation and product on sale purchases

	Situation ¹	Purchased on \$100	
		Yes	No
	None	75	25
	Failure	48	52
	Other	70	30
<hr/>			
Effects	Chi-square test on product (110)		Marginal test on situation (110)
Experience (P)	0.1645		0.1108
Situation (S)	0.8219		0.0076
Product (Q)	0.9349		0.4879
P x S	0.0340		0.3741
P x Q	0.4605		0.2719
S x Q	0.8625		0.5338
P x S x Q	0.0587		

Table B.56

Effects of experience, situation and product on results for planning

Experience	Found mostly what was wanted	Close level of match with
None	65.58	58.93
1 - 2	64.9	58.7
3+	77.5	62.3

Effects	Eliminating test significance	Marginal test significance
Experience (P)	0.0112	0.0219
Situation (S)	0.4145	0.4942
Product (Q)	0.1422	0.2749
P x S	0.7983	0.7743
P x Q	0.3093	0.4283
S x Q	0.1511	0.1957
P x S x Q	0.7341	

Table 4.56

Effects of experience, situation and product on post-purchase satisfaction

Product	Very satisfied
Refrigeration	68.7%
Laundry	76.0%

Effects	Wilcoxon test No. probability	Marginal test No. probability
Experience (P)	0.0179	0.2706
Situation (S)	0.0071	0.0327
Product (O)	0.0114	0.0207
P x S	0.0040	0.0041
P x O	0.0258	0.0043
S x O	0.0017	0.0179
P x S x O	0.0093	

factor scores, motivation-interest scores and behavior factor scores are summarized in Table 8.62. The most substantial correlation ($r = 0.40$) was between uncertainty over brand choice, model choice and where to shop (21) and shopping scope (24). The greater the prior uncertainty over what to do, the greater shopping activity. The same prior uncertainty had a much weaker effect on the range of different sources consulted and had an insignificant relationship with the specification time-lag. Knowledge uncertainty had no impact on the search and shopping factors.

The canonical correlation analysis presented in Table 8.63 confirms that knowledge uncertainty had little impact on search activity. This analysis also reveals that perceived time-pressure had very little impact on the breadth and scope of shopping and search. The relatively strong relationship was between shopping activity (number of brands initially considered, number of stores shopped and actual shopping time) and choice uncertainty (what to buy and where to shop). The term "relatively" is used because the canonical relationship explained only 20% of the variability in the canonical variates. To summarize, shopping behavior is related to only prior choice uncertainty and not prior knowledge.

Both uncertainty factors were negatively correlated with the desire to obtain the latest technology. The more knowledgeable were more likely to seek to obtain the latest technology and attempt to identify highly quantifying problems. Addressing specifically H_{22} , prior uncertainty was not positively related in agreement with the statement "I wanted to learn new things about appliances". The two uncertainty factors correlated slightly negatively ($r = -0.23$ and $r = -0.34$) with this motivational measure. Learning new things can at times perhaps create greater uncertainty

Table 2.57
 Entry uncertainty, interest and motivation and search and
 shopping factor correlation matrix

	U1	U2	M1	M2	M3	S1	S2
Uncertainty over what to do (U1)							
Knowledge uncertainty (U2)	0.00						
Tried to find results (M1)	0.08	-0.21**					
Wanted to spend 15000 time (M2)	-0.04	0.00	0.00				
Wanted to obtain the results (M3)	-0.18**	-0.19*	0.00	0.00			
Shopping activity/ score (S1)	0.40**	-0.02	0.17*	-0.17**	0.01		
Range of different sources (S2)	0.17**	-0.06	0.27**	-0.17*	0.02	0.00	
Consideration time log (S2)	0.02	0.04	-0.02	-0.17*-0.04	0.00	0.00	

* $p < 0.05$

** $p < 0.001$

Table 8.68

Canonical correlation between shopping and search activity and prior uncertainty and time pressures

Canonical Metric	W	SS	PDF	SL
What to do uncertainty (W)				
Knowledge uncertainty (SL)	0.88			
Purchase time pressure (PDF)	-0.83	4.12		
Shopping activity (SL)	0.88	-0.08	-0.87	
Use of difference sources (W)	0.14	-0.86	0.01	0.08

Canonical Correlation Analysis

Canonical Root	Dispersion	Canonical R	Bartlett's test of the significance of the canonical Cor-squares	d.f.	p-value
1	0.3201	0.888	121.85	4	0.0000
2	0.0026	0.350	1.32	7	0.9788

Canonical variate loadings

Shopping activity	0.888
Use of difference sources	-0.877
What to do uncertainty	0.888
Knowledge uncertainty	-0.888
Purchase time pressure	-0.874

rather than reduce uncertainty and can consequently not be a particularly attractive objective to the initially uncertain.

Uncertainty and Use of Information Sources

Table 8.28 presents the relationships between the original uncertainty measures and the consulting of uses of the different sources. Brand choice uncertainty and store choice uncertainty had the most effect on the consultation of the different sources. Uncertainty over the important considerations in making the choice had the least effect. The pattern of significant relationships suggested that:

- Uncertainty over the features that are available results in greater consultation of catalogs, brochures and leaflets and salespeople,
- Performance uncertainty is negatively related to the greater consultation of newspaper advertising,
- Brand choice uncertainty is related to greater consultation of newspaper ads., catalogs, brochures and leaflets, Consumer Reports, Friends and relatives, and salespeople,
- Model choice uncertainty is related to greater consultation of newspaper advertising, catalogs, friends and relatives and salespeople, and
- Store choice uncertainty is related to greater consultation of all of the sources except the salesperson.

The consultation of a variety of different sources was not very strongly related to uncertainty but from the above findings it is clear that the consultation of specific types of sources was affected by specific types of uncertainty. Appendix K reveals that uncertainty also increased the rated usefulness of three of the major sources although again the relation of each source depended on the type of uncertainty

Table B-55
Firm uncertainty and use of information sources

Firm uncertainty	Percentage of the 400 largest firms that used each of the following sources						
	Accountant firm	Legal firm	Consulting firm	Investment bank	Financial analyst	Industry or trade association	Subsidiary
Product uncertainty							
Very sure	46.0%	19.0%	65.0%	29.0%	37.0%	37.0%	32.0%
Somehow sure	46.0%	19.0%	65.0%	36.0%	43.0%	43.0%	58.0%
Not sure	10.0%	10.0%	30.0%	20.0%	30.0%	37.0%	10.0%
	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)
Performance uncertainty							
Very sure	46.0%	19.0%	65.0%	37.0%	37.0%	37.0%	32.0%
Somehow sure	46.0%	19.0%	65.0%	36.0%	43.0%	43.0%	58.0%
Not sure	10.0%	10.0%	30.0%	20.0%	30.0%	37.0%	10.0%
	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)
Industry uncertainty							
Very sure	46.0%	19.0%	65.0%	29.0%	37.0%	37.0%	32.0%
Somehow sure	46.0%	19.0%	65.0%	36.0%	43.0%	43.0%	58.0%
Not sure	10.0%	10.0%	30.0%	20.0%	30.0%	37.0%	10.0%
	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)
Market position uncertainty							
Very sure	46.0%	19.0%	65.0%	29.0%	37.0%	37.0%	32.0%
Somehow sure	46.0%	19.0%	65.0%	36.0%	43.0%	43.0%	58.0%
Not sure	10.0%	10.0%	30.0%	20.0%	30.0%	37.0%	10.0%
	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)
Rival product uncertainty							
Very sure	46.0%	19.0%	65.0%	29.0%	37.0%	37.0%	32.0%
Somehow sure	46.0%	19.0%	65.0%	36.0%	43.0%	43.0%	58.0%
Not sure	10.0%	10.0%	30.0%	20.0%	30.0%	37.0%	10.0%
	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)
Other, strong relative firm							
Very sure	46.0%	19.0%	65.0%	29.0%	37.0%	37.0%	32.0%
Somehow sure	46.0%	19.0%	65.0%	36.0%	43.0%	43.0%	58.0%
Not sure	10.0%	10.0%	30.0%	20.0%	30.0%	37.0%	10.0%
	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)	(n=100)

while Table 8.43 shows that uncertain buyers tended to rely more on others' advice the uncertainty factor scores did not discriminate very well between the buyers who mostly relied on experience and knowledge and the buyers who mostly relied on others' advice. A discriminant analysis (80% F80) was run using the two uncertainty factors and purchase time-pressure as the independent variables. The most important discriminator was uncertainty over what to do, followed by knowledge uncertainty and purchase time-pressure (see Table 8.47). These three measures correctly predicted whether the shopper had mostly relied on other people's advice or on their own past experience only 66.8% of the time. A similar analysis was undertaken to attempt to discriminate between the group of buyers who mostly relied on new information and the group who mostly relied on experience and knowledge. Sixty-five percent of the buyers were correctly classified by a model with 'what to do' uncertainty again the dominant discriminator (see Table 8.48).

Activation and Behaviour Hypotheses

Those buyers who wanted to spend as little time as possible shopping, relied more on past experience, spent less time shopping, were less likely to visit the different types of stores and were more likely to stop shopping and choose the best model they had seen (see Table 8.43). They were not significantly more or less likely to rely on other people's advice, to be brand loyal, to change their brand and model intentions, to purchase on sale or to negotiate a lower price. However, none of the trends in these measures were in the direction expected and stated in H_{20} . The buyers who were interested in getting the purchase over as quickly as possible were ultimately just as satisfied with their purchase as those who did not express such an interest.

Table 6.60

Uncertainty and reliance on others' advice

Feature uncertainty	Mostly relied on others advice.....	Mostly relied on own capabilities.....
Very sure	20.45	75.55
Somewhat sure	28.5	61.5
Not sure	50.6	42.2 p = 0.0002
Performance uncertainty		
Very sure	20.45	75.55
Somewhat sure	24.3	65.7
Not sure	46.0	54.0 p = 0.0003
Criterial uncertainty		
Very sure	23.45	72.55
Somewhat sure	30.9	65.1
Not sure	55.6	48.4 p = 0.0003
Brand choice uncertainty		
Very sure	22.45	77.55
Somewhat sure	34.7	45.4
Not sure	54.0	44.8 p = 0.0002
Model choice uncertainty		
Very sure	22.45	76.55
Somewhat sure	25.6	70.2
Not sure	50.8	42.4 p = 0.0002
Where to shop uncertainty		
Very sure	25.35	74.65
Somewhat sure	28.5	61.2
Not sure	54.4	41.6 p = 0.0002

Table 4.41

Distributional analysis of reliance on others' advice using
prior uncertainty and purchase time pressure

Distributional Analysis

Step Number	variable entered	P value to enter	Overall Approximate β	d.f.
1	Went to do uncertainty	35.65*	35.55	1,505
2	Knowledge uncertainty	57.35*	36.44	2,408
3	Purchase time pressure	15.52*	37.42	3,403

Jackknifed classification

Group	Percent correct
Mostly Past experience	64.65
Mostly Others' advice	62.85
Total	64.52

* $p < 0.01$

Table 8.62

Discriminant analysis of reliance on new information using prior uncertainty and purchase time pressure

<u>Discriminant Analysis</u>				
Step Number	Variable entered	F value for entry	Score 11 Approximate p	d.f.
1	What to do uncertainty	10.59*	38.60	1,533
2	Knowledge uncertainty	4.52*	30.57	1,538
3	Purchasing time pressure	4.30*	75.55	2,536

<u>Adjusted classification</u>	
Group	Percent correct
Really Fast experience	47.25
Really New Information	55.55
Total	64.95

* p < 0.05

Table 1.43

Wanted to spend as little time as possible and shopping behavior

	Retailer mostly on			
Wanted to spend as little time as possible	Fast experience	New information		
Strongly agree	83.81	18.35		
Somewhat agree	67.85	30.25		
Not agree	62.14	37.86 p = 0.0001		
	Retailer mostly on			
Wanted to spend as little time as possible	Others' advice	Fast experience		
Strongly agree	37.85	33.85		
Somewhat agree	38.8	45.2		
Not agree	37.8	42.2 p = 0.0018		
	Actual shopping time			
Wanted to spend as little time as possible	Under 5 hrs.	5 - 8 hrs.	8 - 9 hrs.	9 plus hrs.
Strongly agree	61.45	22.33	6.85	11.35
Somewhat agree	46.3	34.6	12.7	7.3
Not agree	36.3	25.5	20.4	18.8 p = 0.0000
Wanted to spend as little time as possible	Wanted specialty store	Wanted Sears	Wanted discount store	
Strongly agree	62.41	61.81	14.75	
Somewhat agree	57.1	61.6	24.7	
Not agree	65.1	63.8	33.3	
p = 0.0070 p = 0.0001 p = 0.0004				

Continued

Wanted to spend as little time as possible	Changed brand selection	Changed model selection	Went brand level		
Strongly agree	25.26	24.45	25.85		
Somewhat agree	34.8	31.7	28.4		
Not agree	33.1 p=0.0007	31.7 p=0.2507	28.8 p=0.3540		
	Purchased on sale	Regretted a lower price			
Wanted to spend as little time as possible					
Strongly agree	15.21	13.23			
Somewhat agree	24.0	22.1			
Not agree	24.5 p=0.1158	22.8 p=0.1345			
	Reason for stopping shopping				
Wanted to spend as little time as possible	Found exactly what was wanted	Further shopping not worth the effort, chose best of models seen			
Strongly agree	25.85	48.25			
Somewhat agree	32.9	32.1			
Not agree	24.0	20.0 p = 0.0072			
	Post purchase satisfaction				
Wanted to spend as little time as possible	Very satisfied	Satisfied	Neutral	Dis-satisfied	Very dis-satisfied
Strongly agree	20.58	24.45	2.38	1.45	0.45
Somewhat agree	37.4	28.9	2.8	2.7	0.4
Not agree	26.1	26.4	1.4	1.4	0.4 p=0.0175

The factor analysis undertaken in Chapter seven established that wanting to spend as little time as possible was not strongly related to the other search and shopping motivations. R_{FA} suggested that those buyers in a hurry would be less interested in certain search and shopping objectives. It is possible that the desire to purchase in a hurry was not directly related to perceived purchase time-pressure. Some of the buyers may have had to purchase in a hurry and indicated they had not wanted to get into a hurry. To check on this, perceived time-pressure was assessed with four of the major search motivations and intentions (see Appendix 1). The results indicate that while perceived time-pressure and the desire to spend as little time as possible were related, 68% who strongly agreed they wanted to spend as little time as possible were under very little time-pressure and 21% of those who had indicated they were under great time-pressure did not agree with the motivational statement. Time-pressure was also negatively related to wanting to enjoy the shopping and obtain the latest technology but it was not related to agreement with the statement indicating an effort was made to find out what might be wrong or go wrong with the models looked at.

The relationship between the motivations and search behaviors reported in R_{FA} was examined in a canonical correlation analysis presented in Table 8.01. Only one root was significant and it only explained a pretty bit of the variability in the composite variables representing the sets of measures. The correlation matrix confirms that all of the correlations between the individual motivations and individual search measures were low (less than 0.600). The cross-tab tests of the relationships between the motivation measures and purchase behavior were also generally weak and not statistically significant (see

Table 8-15]. The one relationship that was significant suggested that those who attempted to find out what might be wrong or go wrong with the models looked at tended to be less brand loyal. These buyers were also marginally more likely to change their initial brand intention.

Perceived Differences Hypotheses

The extent of the perceived differences between brands was expected to be related to the time spent shopping, number of stores shopped, number of brands considered and use of Consumer Reports. To investigate these relationships the measures of perceived overall brand difference and perceived price difference between brands were used. The factor analysis showed that these two measures were substantially independent of each other.

Before examining the actual relationships, some effort was made to determine whether any of the terms of the standard R/S/O model were related to these two brand difference measures. With respect to overall brand difference perceptions, none of the terms was significant. An education/experience/ product model did produce a significant effect (see Table 8-16). The college educated shopper less frequently indicated that she did not know whether any differences existed but when she did indicate knowledge she more often indicated that overall the brands differed only somewhat or very little. Education as a main or interactive effect did not influence the perception of brand price differences but an experience-product interaction was observed (see Table 8-17). The less experienced buyer of a refrigerator or freezer was more likely to perceive a great or extreme price difference between brands. A similar effect was not present enough the purchasers of laundry appliances

Table 2.45

Learning, enjoyment and desire to obtain the T-shirt motivations and decision behavior

	Changed with brand information	Changed without brand information	Same brand loyal
Wanted to learn new things			
Strongly agree	30.35	31.41	34.45
Somewhat agree	34.7	32.6	33.3
Not agree	35.0	36.7	32.7
	$p = 0.3458$	$p = 0.3434$	$p = 0.4373$
Wanted to enjoy shopping			
Strongly agree	31.45	31.45	33.05
Somewhat agree	36.9	33.5	35.3
Not agree	31.6	35.7	31.6
	$p = 0.3275$	$p = 0.4030$	$p = 0.4528$
Made an effort to find out what might be or go wrong with models looked at			
Strongly agree	35.50	37.35	37.15
Somewhat agree	34.8	31.8	34.8
Not agree	29.2	29.2	41.2
	$p = 0.8762$	$p = 0.3447$	$p = 0.0044$
Wanted to obtain the T-shirt			
Strongly agree	35.51	34.41	36.71
Somewhat agree	34.2	35.8	35.8
Not agree	30.1	27.3	28.4
	$p = 0.3904$	$p = 0.1792$	$p = 0.4388$

Table 3.46
Effects of experience, education and product on perceived brand
differences

	Perceived overall brand strength		
	Mean	SD	Se mean
<u>Education</u>			
No college	28.47	56.26	14.31
College	18.5	43.4	11.2
<u>Experience</u>			
0	28.47	56.26	14.31
1	20.5	43.4	11.2
<u>Product</u>			
0	28.47	56.26	14.31
1	18.5	43.4	11.2
<u>Interaction</u>			
0 x 0	28.47	56.26	14.31
0 x 1	20.5	43.4	11.2
1 x 0	20.5	43.4	11.2
1 x 1	18.5	43.4	11.2
<u>Statistics</u>			
Effect	Eliminating test on predictability	Multiple test on predictability	
Experience (E)	0.0037	0.0090	
Education (E)	0.0137	0.0148	
Product (E)	0.7101	0.1117	
E x E	0.0480	0.0014	
E x O	0.2406	0.4007	
E x B	0.0057	0.0006	
E x E x O	0.1063		

Table B.63
The effect of experience, situation and product on perceived price variability

Product	Experience	Perceived price variability		
		Good	Little	Too not time
Refrigeration	None	64.85	55.85	4.85
	1 - 2	55.7	52.7	8.3
	3+	38.8	69.6	15.9
Laundry	None	44.85	43.75	3.75
	1 - 2	50.0	45.8	6.2
	3+	68.4	50.5	5.5

Effect	Chi-square test for probability	Marginal test for probability
Experience (P)	0.0158	0.0012
Situation (S)	0.4324	0.7984
Product (Q)	0.8887	0.8940
P x S	0.4448	0.5381
P x Q	0.0495	0.0762
S x Q	0.4814	0.8339
P x S x Q	0.5426	

Given the possibility that perceived time-pressure might moderate the effect of the brand difference perceptions on shopping behavior, this measure was included in the Topolmeyer model fitting. The effects of overall brand difference perceptions on actual shopping time, number of stores shopped, number of brands initially considered and the consulting of Consumer Reports are presented in Tables 8.18 to 8.21. The shoppers who, when questioned, did not know what differences existed spent less time shopping, shopped fewer stores, considered fewer brands initially and less frequently consulted Consumer Reports. (It was primarily these shoppers who produced the brand difference main effect. An interesting tendency, however, emerged) Those who perceived that there was little overall difference between the brands tended to more frequently consider more than one brand than those who perceived that big differences existed. This suggests that some of the shoppers who considered only one brand did so because they believed it was clearly superior. In such circumstances overall brand difference perceptions work against, rather than for, increasing the search scope. Perceived time-pressure did not moderate the effect of brand differences but it did have a main effect on shopping time and the consulting of Consumer Reports.

The effect of price difference perceptions on actual shopping time, number of stores shopped and number of brands initially considered was more along the lines expected (see Tables 8.22 to 8.24). Again, those aware of the extent of price difference undertook the least shopping and considered fewer brands. But those perceiving the greatest difference in prices did indeed shop more and consider a greater number of brands than those perceiving little price differences between the brands.

Table 9.88

Effects of perceived brand differences and time pressure on actual shopping time

Perceived overall difference	Actual shopping time		
	Under 2 hrs.	2-4 hrs.	4+ hrs.
Big difference	40.33	39.33	35.25
Little difference	41.4	38.2	39.5
On not time	58.9	23.2	17.5

Effects	Chi-Square Test Sig. probability	Fischer's Test Sig. probability
Perceived overall difference (2)	0.0028	0.0314
Perceived time pressure (2)	0.0050	0.0048
D = 1	0.9425	

Table B.49

Effects of perceived brand differences and time-pressure
on number of stores stopped

Perceived brand difference	Number of stores stopped		
	1	2-3	4+
Big difference	33 (3)	42 (3)	33 (6)
Little difference	38 (4)	40 (3)	38 (4)
On test store	64 (2)	33 (2)	13 (3)

Effects	Filshie test Sig. probability	Marschall test Sig. probability
Perceived brand difference (F)	0.0000	0.0000
Perceived time-pressure (T)	0.0000	0.0000
T & F	0.0000	

Table 2.20

Effects of perceived brand difference and time-pressure
on number of brands considered

Perceived overall difference	Number of brands considered		
	1	2 + 3	4+
Big difference	31.25	51.25	17.50
Little difference	28.3	56.4	15.3
On test time	45.3	47.4	7.3

Effects	Chi-square test on gender (1%)	Rank-sum test on gender (1%)
	χ^2	Z
Perceived overall difference (2)	0.0006	0.0006
Perceived time-pressure (1)	0.3813	0.3844
B x T	0.0006	

Table 9.20

Effect of perceived brand differences and time-pressure on
consulting of consumer reports

Perceived brand difference	Consumer reports consulted	
Big difference	38.7%	
Same difference	33.8	
No real brand	15.5	
Perceived time-pressure		
Order	38.1%	
Great	11.8	

Effect	Chi-square test its probability	Marginal test its probability
Perceived brand difference (2)	9.0582	0.0034
Perceived time-pressure (1)	9.8025	0.0020
2 x 1	9.1995	

Table 8.12

Effects of perceived price differences and time-pressure on actual shopping time

Perceived price difference	Actual shopping time		
	Under 3 hrs	3-4 hrs	5+ hrs
Big difference	28.65	32.45	33.92
Little difference	48.3	29.8	28.8
Do not know	84.4	15.1	4.1
Perceived time-pressure			
Less than great	62.60	23.20	38.25
Great	51.3	28.5	17.7

Effects	Eliminating test on perceived time	Perceived time on perceived time
Perceived price difference (2)	0.0000	0.0000
Perceived time-pressure (1)	0.0314	0.0015
2 x 1	0.7680	

Table A.23

Effects of perceived price differences and time-pressure
on number of items shipped

Perceived price difference	Number of items shipped		
	1	2 + 3	4+
big difference	24.1%	44.1%	31.8%
little difference	37.2	44.5	18.3
do not know	31.0	4.8	6.5

Effects	Wald test (% probability)	Binomial test (% probability)
Perceived price difference (R)	0.0000	0.0000
Perceived time-pressure (T)	0.0021	0.0110
R x T	0.0071	

Table 8.74

Effects of perceived price differences and time-pressure on
number of brands considered

Perceived price differences	Number of brands considered		
	1	2 + 3	9+
Big difference	25.25	58.25	22.50
Little difference	27.5	58.5	13.5
Do not know	75.0	22.5	2.5

Effects	Chi-square test on probability	Marginal test on probability
Perceived price differences (2)	0.0000	0.0000
Perceived time-pressure (1)	0.0440	0.4200
2 x 1	0.9070	

The direction of the relation between the perceived differences between brands and shopping and search behaviour is, however, very much open to question. The brand difference perception measures were undertaken after shopping and did not need the recall of such perceptions prior to shopping. Lack of shopping because of strong brand loyalty or the shatterer value reason will logically result in ignorance about the variability in the offering. It is also quite possible that more extensive shopping leads to the perception that greater price variability exists in the market, rather than perception that greater price variability in the market leads to more extensive shopping. If that is so, then greater search effort increases price variability perceptions but does not affect overall variability perceptions.

Consulting Consumer Reports and Purchase Behavior

A greater percentage of the shoppers who claimed to have consulted Consumer Reports did so frequently, consider many more brands and change their brand preferences (see Table 8.15). They did not, however, show a significantly greater tendency to change their initial model intention and they shopped in more rather than fewer stores. The consulting of the consumer magazine appears to encourage, or at least complement, rather than substitute for shopping activity.

Private Brand Buyer Behavior

The hypothesis (H_{4D}) that private brand buyers would be more price conscious and undertake more comparison shopping was only partly supported. The buyer of an appliance from Sears, Roebuck or Penney's (the private brand appliance retailers) did not spend more time shopping (see Table 8.16). Appendix J shows that the type of store where purchase was made

Table 8-75
 Behavior of those who consulted consumer reports

Number of brands initially considered			
	<u>Under 5</u>	<u>5-10</u>	
Did not consult CR	66.15	5.85	
Consulted Consumer Reports	85.3	14.7	$p = 0.0044$
Number of stores shopped			
	<u>1-2</u>	<u>3 or more</u>	
Did not consult CR	62.15	37.85	
Consulted Consumer Reports	34.4	65.6	$p = 0.0020$
Fulfilled initial brand intention			
	<u>Yes</u>	<u>No</u>	
Did not consult CR	71.15	28.85	
Consulted Consumer Reports	68.3	31.7	$p = 0.0098$
Fulfilled initial model intention			
	<u>Yes</u>	<u>No</u>	
Did not consult CR	69.55	30.45	
Consulted Consumer Reports	62.8	37.2	$p = 0.0040$

Table 8.26
Private brand buyers' shopping behavior

	Perceived price difference between brands					
	Don't know	Very Little difference	Some difference	A lot of difference	A considerable difference	
Private brand	61	15	104	246	175	
National brand	7	10	41	24	15	
	p = 0.05					
	Actual shopping time					
	Under 2 hours	2 - 4 hours	4 + hours			
Private brand	403	285	283	p = 0.03		
National brand	44	27	25			
	Choice strategy					
	Relied mostly on new information	Relied mostly on experience				
Private brand	283	725	p = 0.30			
National brand	23	67				
	Choice strategy					
	Relied mostly on advice	Relied mostly on experience				
Private brand	310	495	p = 0.14			
National brand	20	43				

did not influence other measures of shopping activity and range of sources consulted. However, when it came down to the specific use of different sources, the private brand buyer did more frequently consider, consult and find useful, newspaper advertising and catalogs (see Table 8.17). On the other hand the buyer who purchased a national brand at a specialty appliance store more often considered, consulted and found useful a reprieve and salesperson. This discriminating use of sources was confirmed in the choice of the source first consulted and the source found most useful (see Table 8.78). The private brand buyer did not rely less on past experience but a much higher percentage of than did purchase their appliance at a sale price (see Table 8.79). The incidence of negotiated price deals was, as might be expected, very low for the private brand purchases but quite high (at least a quarter) for the national brand purchases. Overall, one third of those purchasing a national brand at a specialty store paid the "normal" price, compared with only one in eight of those purchasing a private brand from Sears, Wards or Penneys.

The Decision Participation Hypothesis

None of the relationships suggested by H_{22} were supported. The appliance purchases that involved joint decision making and shopping did not result in more time spent shopping, did not result in a significantly greater number of private brand purchases (although the trend was in that direction) and did not result in a higher incidence of very satisfied shoppers (see Table 8.80). In fact the trend was for those who had indicated they had made the purchase jointly to indicate less satisfaction with the purchase. Perhaps this reflects the compromise that had to be made with a spouse which was not required when the primary responsibility was in the hands of a single person.

Table 6.23

Private Armed Forces' use of information sources

Type of store where purchase was made	Did not think about consulting newspaper	Thought about but did not consult newspaper	Consulted newspaper	Consulted and found newspaper useful	
Speciality store	55.0%	12.7	15.3	16.9	100%
Books, Records, Tapes...	48.0%	8.4	16.8	26.8	100%
Other types of stores	57.0%	16.3	8.3	18.3	100%
$\chi^2 = 1.0010$					
	Did not think about consulting catalog	Thought about but did not consult catalog	Consulted catalog	Consulted and found catalog useful	
Speciality store	47.2%	13.2	1.4	15.2	100%
Books, Records, Tapes...	37.8%	5.8	6.2	49.2	100%
Other types of stores	49.2%	18.4	2.3	29.3	100%
$\chi^2 = 0.0900$					
	Did not think about consulting salesperson	Thought about but did not consult salesperson	Consulted salesperson	Consulted and found salesperson useful	
Speciality store	21.0%	4.4	7.4	26.2	100%
Books, Records, Tapes...	42.0%	3.3	8.4	46.4	100%
Other types of stores	26.1%	3.1	16.4	47.4	100%
$\chi^2 = 0.0188$					

Table 6.23 (continued)

	Did not think about consulting salesperson	Thought about but did not consult salesperson	Consulted rep/insurer	Consulted and failed rep/insurer	
Specialty store	78.85	18.3	5.9	10.3	100%
Scars, Marks, Piercings	85.85	10.3	1.3	5.4	100%
Other types of stores	88.75	5.9	3.9	5.4	100%
$\chi^2 = 11.7$ $P = 0.0044$					

Table 8.10

Relationship between store where purchase was made and the source first consulted and the most useful information source

Source first consulted	Type of store where purchase was made		
	Specialty stores	Dept., variety, discount	Other types of stores
Newspaper ad	19.0%	26.5%	15.7%
Radio/telev	6.3	7.7	6.8
Catalog	6.3	26.5	15.7
Brochure & letter	4.1	7.7	4.9
Magazine ad	6.4	1.4	1.0
Friend or relative	10.6	12.6	27.5
Salesperson	26.7	16.6	22.6
Consumer Reports	14.5	4.3	6.0
Tv ad	1.3	0.0	0.0
	100%	100%	100%
Source found most useful			
Newspaper ad	6.0%	10.2%	5.0%
Radio/telev	0.0	3.4	0.0
Catalog	1.0	16.7	6.0
Brochure & letter	1.0	0.0	12.0
Magazine ad	0.0	1.0	1.0
Friend or relative	10.5	20.1	25.0
Salesperson	47.8	26.6	27.0
Consumer Reports	26.2	4.3	12.0
Tv ad	1.0	0.0	1.0
	100%	100%	100%

p=0.0000

p=0.0000

Table 8.78

Store where purchased and whether purchase was made at a special price

Purchase made at	Purchase made at a reduced price			
	Normal Price	Sale Price	Regulated Special Price	
Appliance store	33%	37%	30%	100%
Sears, Wards or Kearns	10%	84%	6%	100%
Other type of store	27%	43%	30%	100%
Grand total	22%	60%	18%	100%
p=0.0008				

Table 8.80

Effects of decision participation on shopping activity,
private brand purchasing and post purchase satisfaction

Decision participation	Actual shopping time			
	Under 2 hours	2 - 4 hrs	5+ hrs	
Single	340	100	280	$p = 0.97$
Joint	34	30	36	
Decision participation	Private brand purchase		General brand purchase	
Single	360		690	$p = 0.98$
Joint	40		50	
Decision participation	Very satisfied		DMR	
Single	800		100	$p = 0.37$
Joint	70		20	

Satisfaction and Behavior

As a very high proportion (over 90%) of the shoppers indicated they were either satisfied or very satisfied with their purchase it was decided to look at the effects of time spent shopping and number of sources consulted on the incidence of only very satisfied buyers. Table 6.11 indicated that none of the suggested relationships was significant. Satisfaction with the purchase does not appear to be a function of shopping activity or the consideration time-log.

Summary

This chapter examined the relationships suggested by the hypotheses in Chapter Four. A summary of the results is presented in Table 6.12. Two of the 24 hypotheses were supported, 18 were only partly supported and 10 were not supported. Rather than repeat the numerous findings reported above it was thought that a focus on some of the more interesting purchase circumstance results would be more appropriate.

A significantly lower percentage of the shoppers purchasing because of a residential move were familiar with four or more stores in the locality that sold appliances, but this percentage (51.9%) was in absolute terms still very high. Consistent with this finding, a residential mover was relatively more uncertain about where to shop but also was more uncertain about what model or brand to buy. The effects of a residential move on reported behavior were, however, not very dramatic. The inexperienced shopper who purchased because of a residential move was more likely to consider more brands (average 2.9) compared to the inexperienced shopper in the other two purchase circumstances (average 2.3) and the experienced shopper in all three circumstances (average

Table 8.28

Effect of actual shopping time, consideration time and number of sources consulted on post purchase satisfaction

		5 very satisfied	
Actual shopping time			
Under 2 hrs	722		
2 - 4 hrs	67		
5+ hrs	68	$p = 0.21$	
Consideration time (wks)			
Under a week	755		
Week to 3 months	88		
3 months +	73	$p = 0.38$	
Number of different (commercial) sources consulted			
None	733		
Few (1 - 3)	71		
Many (4+)	71	$p = 0.92$	
Number of different (independent) sources consulted			
None	725		
One	71		
Two	68	$p = 0.60$	

Table B.32

Summary of hypothesis findings

H ₁	Failure-forced replacement purchases are made under greater time-pressure. (supported)
H ₂	Failure-forced refrigeration purchases will be made under greater time-pressure. (supported)
H ₃	Residential owners' store familiarity will be lower. (supported)
H ₄	The incidence of joint decision making is higher amongst lower income households. (not supported)
H ₅	Refrigeration purchases will involve more joint decision making. (supported)
H ₆	The experienced buyer is more sure about how to choose and what to do. (not supported)
H ₇	Residential owners are less sure about where to shop. (supported)
H ₈	Appliance failure results in different search interests and motivations. (partly supported)
H ₉	Trading-up results in greater interest in obtaining new technology. (supported)
H ₁₀	Inexperienced shoppers are more interested in learning new things about the appliance. (not supported)
H ₁₁	Inexperienced shoppers will rely more on new information and others' advice than past experience and knowledge. (partly supported)
H ₁₂	Residential owners will rely more on others' advice compared to those in other purchase circumstances. (partly supported)

- H_{14} : Purchase circumstances will influence consideration time.
(supported)
- H_{17} : Advertisement mode will not influence search scope.
(partly supported)
- H_{18} : Product failure will reduce the scope of search and shopping time.
(partly supported)
- H_{19} : Inexperience will increase the scope of search and shopping time.
(partly supported)
- H_{20} : The search scope and shopping time will be greater for refrigeration appliances.
(partly supported)
- H_{21} : Residential buyers will more often consult newspaper ads and periodical stories.
(not supported)
- H_{22} : College educated will consult more written sources.
(supported)
- H_{24} : The higher income shoppers will more often consult Consumer Reports and friends.
(not supported)
- H_{27} : Experience reduces the impact of shopping circumstances and search scope and consultation of sources.
(partly supported)
- H_{28} : Product failure will result in less distant store shopping.
(supported)
- H_{29} : Residential buyers are more likely to shop at Sears.
(not supported)
- H_{30} : Experienced shoppers are not more likely to shop at Sears.
(not supported)
- H_{31} : Residential buyers will be less brand loyal and more likely to change their intentions.
(not supported)
- H_{32} : Inexperienced buyers are more likely to change their intentions.
(not supported)

- H_{34} : Product failure will result in less likelihood of a sale purchase.
(supported)
- H_{35} : Prior uncertainties will influence search interests and behavior.
(partly supported)
- H_{36} : A desire to spend as little time as possible shopping will affect shopping and buying behavior.
(partly supported)
- H_{37} : Search interests will influence shopping and buying behavior.
(partly supported)
- H_{38} : The perceived difference between brands will be related to search scope and use of Consumer Reports
(partly supported)
- H_{39} : The consistency of Consumer Reports will be related to the total number of store brands, changes in intentions and shopping of fewer stores.
(partly supported)
- H_{40} : Private Brand buyers will undertake more comparison shopping.
(partly supported)
- H_{41} : Joint decision making increases shopping activity, likelihood of private brand purchase and satisfaction.
(not supported)
-

3.2) The residential move in general also shaped store choice (2.4) and spent more time shopping than those buyers replacing a failed appliance or replacing a currently operating appliance. The content use of individual information sources was not distinctive, nor was her purchase behavior, except that she was more likely to purchase at a sale price than the shopper in the other two purchase situations.

It was thought that, at least, the 50 shoppers who purchased because of a residential move of more than 30 miles might exhibit distinctive behavior when compared to the rest of the buyers. A comparative study did not reveal any differences in their use of information sources, number of brands considered and stores shopped. The actual shopping time was, however, slightly longer for the long-distance move.

Previous product failure reduced the scope of search and the range of sources consulted. The average number of brands considered was much the same as that of a buyer replacing a still operating appliance but the number of stores shopped and shopping time was less. All types of stores except the specialty appliance store were less likely to be shopped. Newspaper ads, magazine ads, brochures and labels and friends and relatives were less likely to be consulted. A repairman was considerably more likely to be consulted. The shopper who had to replace a failed appliance was less brand loyal than the shoppers in the other two circumstances, if she was relatively inexperienced. The older, more experienced shopper was, however, relatively more brand loyal in failure-driven circumstances. Fewer sales purchases were made in failure-driven circumstances. Motivationally this situation reduced interest in learning the details and increased interest in making the purchase as quickly as possible. It did not have any impact on the desire to find

out what might be wrong or go wrong with the appliances looked at, whatever the experience of the shopper or the product type, under failure-forced replacement circumstances she mostly relied on her past experience and knowledge rather than new information.

From a practical segmentation perspective, the very important dependent variable, type of store at which purchase was made was unfortunately not influenced by any of the variables. The very experienced shopper and the shopper replacing a failed appliance was marginally more likely to purchase from an appliance store but the percentage differences did not approach significance. It had been expected that the residential owner would more often shop at a general merchandise such as Sears, J&S or Penneys than the shoppers in the other two circumstances.

The Final Model

The bulk of the analysis was undertaken within the framework of a shopper experience/purchase situation/appliance type model. A summary of the significant effects of such a model on the measures of interest is presented in Table 4.51. One of the features of the table is the variety of combinations of significant effects that occurred. Some of the dependent variables were influenced by only main effects, others were influenced by various interaction effects. No single model configuration dominated. However, in terms of the main effects, situation was the most frequently significant. Shopping experience directly influenced dependent variables only half as often as the purchase situation did and, on this criterion, not very much more influential than the nature of the appliance. The findings suggest that education may indeed be a more powerful individual difference determinant of shopping behavior.

1000

At the outset it was expected that the interaction terms in the model would frequently be significant, reflecting the theory that different people react in different ways to the purchase of different products in different purchase circumstances. In fact, only one in three of the models fitted contained a significant interaction term. Of these, only 11 involved interactions of P and S or P, S and Q. When the Friedman test, as interaction model was the exception rather than the rule. When experience did interact with situation it usually, but not always, moderated the effect of situation on the dependent variable.

While the summary table indicated quite a number of statistically significant relationships, the difference in the means or percentages was often not very great. The GLM analyses that report the sums of squares indicate that only a small proportion of the response variability was ever explained by the statistically significant effects. In general the models used only explained a fraction of the variability in individual behavior. There are clearly many other factors that influence behavior and which would have to be included in the model to increase its explanatory power.

The effecting tests justified their use as they frequently exposed spurious relationships. In particular several experience effects on the expectancy measures did not hold up under eliminating tests when the effects of situation and appliance type were partialled out of the relationship.

The Process Relationships

The relationships between underlying, motivational and behavior were not as strong as expected. In particular, the motivational measures explained little of the behavior. Whether this was due to

measurement problem or a genuine lack of relationship between the interests and the recalled search behavior is unclear. Some of the more important findings arising from examining the process hypothesis were:

- Uncertainty over what to do correlated with increased shopping but not greater consideration time or consulting a wider variety of sources.
- Knowledge uncertainty had no effect on shopping activity, scope of search or consideration time.
- Perceived time-pressure did not have as dramatic an effect on shopping activities and search scope as expected.
- Different uncertainties influenced the consulting of different information sources.
- Perceived time-pressure influenced goal motivations except for the desire to find out what might be wrong or do wrong with the vehicle looked at.
- The motivation-behavior relationships were almost not existent.
- Perceived increased price variability increased search. Perceived increased overall variability did not.
- Private brand buyers were frequently purchased on sale and relied on different information sources compared with national brand buyers.

In conclusion, the use of the FTA/B model placed in perspective the importance of purchase situation as a determinant of shopping and search behavior. Less so, the effect of the purchase circumstances was at times less than expected. The residual unexplained variability in reported behavior means the variability that was explained by individual difference variables, a situational variable, a product difference variable and their interaction. The links between the variables presented in Figure 8.1 were also observed to be very weak. This suggests that either the measurement of these variables has to be greatly improved or the theoretical model needs to be reconceptualized.

It should be recognized, however, that the purchase process is a dynamic sequence of events. Using static measures, whether they are personal, product or situational in nature, to explain such a flow of behavior may be a rather hopeless task.

CHAPTER XVII THE SHOPPING BEHAVIOR OF INNOVATORS OVER TIME

Introduction

Many studies have examined the adoption and diffusion of new innovations. Rogers (1958) estimated that of 1,800 diffusion studies he was aware had been undertaken up till that date, 95 (144) were associated with the field of marketing. These studies, however, have seriously focused on the personality characteristics of innovators, the product characteristics of successful innovations, sociometric social network analysis and the methodological modeling of penetration rates. Very few have reported on the shopping and information search behavior of buyers of a relatively new innovation and in the process compared it with the shopping behavior of buyers of a well established product. The point is that while almost all modern consumer behavior texts devote at least a chapter to the diffusion of innovations, minimal information on innovator's actual shopping behavior and use of commercial information sources is provided. Engel, Blackwell and Wollast (1979, p.375) do present some conflicting findings on the role of the media and salesperson at the early stages of the diffusion process. Reynolds and Wells (1977) quote Wells's (1964) study of the use of word-of-mouth in the purchasing of new air conditioners, but they do not explain the role of other information sources. Dittman and McInander (1978) who because of their expertise in this area might have been expected to offer the most insightful advice and supporting facts on how to market to early

adopters, concentrate on theories and models of the adoption process. The practical example they offer is a stereotypic case study description of how a household might purchase a microwave oven. They indicate that friends, neighbors and consumer magazines are likely to be consulted.

The leading figure in the field has concluded that researchers should study social networks and their communication patterns (Rogers 1976). The descriptive study of any unusual shopping and information seeking patterns of early adopters is not mentioned. Admittedly, such case-study descriptive studies lack the elegance of the longitudinal sociometric research but they do address long-standing issues in marketing a new innovation. This chapter describes and contextualizes the behavior and attitudes of the 1976 microwave oven buyer with the behavior and attitudes of the white appliance buyer.

Classifying the Microwave Oven Buyer

The results of the screening survey presented in Appendix K indicate that the microwave oven's penetration is around 20% compared with the refrigerator's 90%, washer's 85%, dryer's 75% and the freezer's 60%. According to conventional thought the oven buyers that were studied here would therefore have come from the 'early majority' rather than the 'early adopters' segment (Rogers 1983). The true 'innovators' and 'early adopters' are the first 1% of households to adopt a product. The following 34% who adopt the product are the 'early majority', the next 34% who adopt are the 'late majority' and the remainder who purchase are the 'laggards'. It might be argued that such a segmentation does not readily accommodate products whose penetration of the marketplace several decades and, in particular, generations of buyers. For example,

are young newly married couples who purchase a freezer really "luggable" because they did not purchase an appliance 10 years earlier. What is indisputable is that the microwave oven is a unique new home appliance that is purchased by mainly inexperienced buyers and users.

Innovation and Experience

An important difference between the modern laundry or refrigeration appliances and the microwave oven, is that the first group are "continuous" innovations but the oven is a "discontinuous" innovation (Schwartz 1967). Refrigerators and washers are continuously evolving as new technology is incorporated into annual model changes. Such feature innovations improve operating performance but do not dramatically alter patterns of usage behavior. The microwave oven has dramatically changed food preparation behavior and attitudes. It is a revolutionary rather than evolutionary innovation. The buyer of a microwave oven is therefore very inexperienced both in terms of using and buying the product. Only a little over 50 of the oven purchasers were replacing a previously owned microwave oven. The great majority of the microwave ovens were first-time purchases made because the appliance was "wanted" for its convenience and efficiency.

The analytical framework used in Chapter Eight, that crossed situation, person and product could not be used in illustrating the behavior of the oven and white appliance buyers because the microwave oven is such a new appliance. The few of the microwave oven buyers had any previous shopping experience and the few purchases were made because of product failure or a residential move. Consequently the separate and joint effects of experience and purchase circumstances could not be studied. Instead, it was decided that most of the analysis should contrast the behavior of the 100 first-time buyers of microwave ovens with the 201

first-time buyers of a refrigerator, freezer, washer or dryer. Such a comparison controls for past purchase and shopping experience but not usage experience. Where appropriate reference is also made to comparative findings for the whole group of white-ware buyers.

The first comparison made was, indeed, between the latent structures underlying the responses of all of the microwave oven buyers and the latent structures underlying the responses of all of the white-ware purchasers. The critical assumptions, motivations and inferences of the first-time microwave oven buyers were then examined. This is followed by source use, shopping, purchase and post-purchase findings. The chapter concludes with a summary of the major differences between the oven buyers' and white-ware buyers' shopping behavior.

Factor Analysis of Oven Buyers' Responses

The responses of the microwave oven buyers were factor analyzed to find out whether the underlying relationships within the sets of measures were similar to the relationships between the responses of the white-ware buyers, as revealed in Chapter Seven. If similar factors or constructs emerged then such a replication would increase the validity and reliability of the earlier findings. If, on the other hand, the analysis produced distinctly different factor structures then this could be due to the unreliability and instability of factor analysis or could be due to a different set of constructs underlying the responses of the microwave oven buyers. Such 'real' differences might provide useful explanations for the unique behavior of innovators or early adopters. Unfortunately, the validity of any differences in the factor structures could not be established. The set of factor analyses of the responses of the microwave oven buyers is presented in Appendix E.

Overall the structures were remarkably very similar, but each varied in the following ways. There was a higher intercorrelation between feature uncertainty, performance uncertainty, considerations uncertainty, brand choice uncertainty and model choice uncertainty for the even buyers. This isolated where to shop uncertainty as a separate, second factor. A tentative explanation for this distinctive structure is that for a new innovation, model and brand choice uncertainty are more closely tied to knowledge and experience uncertainty. The separation of store choice uncertainty from model and brand choice uncertainty suggests that some microcosm even buyers were sure about where to shop but less sure about the product choice and either buyers were sure about what product to choose but less sure about where to buy the brand and model.

Interest-Motivational Structure

The distinctive feature of the even buyers' interest-motivational factor structure was that technical interest was associated with efforts to identify spending problems and a desire to obtain the latest technology. The first component in the two factor structure suggests a shopping enjoyment/learning motivation that is negatively related to the desire to effect a quick purchase. The second component is a more utilitarian shopping and search motivation directed at avoiding the two types of risk. The forcing of the third component separated concern over waiting time from the other measures and shifted avoidance of a problem appliance into the first component. Interest in avoiding spending problems, interest in obtaining the latest technology and interest in making a quick purchase are components of separate factors or constructs. The replication of this white-appliance buyer finding confirms the distinctiveness of these motivations.

The perceived brand difference latent structure most closely replicated the white-appliance buyers' correlational structure. Three components emerged: variability in operating performance, variability in features and style and variability in price. The most substantial difference was the lower correlation between price variability and other feature variability amongst the storewide mass buyers.

Shopping Activity Structure

The shopping activity latent structure separated the time-lag measure from the number of brands considered, number of stores shopped and actual shopping time. This confirms that even for a new knowledge the "consideration" time measure is not highly related to shopping effort. There was, however, a somewhat higher correlation between number of brands considered and time-lag. When the number of different commercial sources consulted and number of different independent sources consulted were added to the correlational structure, the three-factor structure varied in that the use of commercial information sources was tied more to shopping activity than the use of independent information sources. But like the white-appliance buyers' search and shopping latent structure, time-lag became a separate third construct. The number of different independent sources consulted dominated the second factor. The first construct represents the variety of brands considered, stores shopped, commercial sources consulted and shopping time. In summary, the extent of the mass buyers' contact with the manufacturers and retailers, directly or through their advertising seems to be independent of "consideration" time and the use of friends or relatives and Consumer Reports.

Descriptive Statistics

Participation, Consideration Time, and Time-Pressure

The hypothesis that the male head of household would be more involved in the decision making and shopping for a microwave oven (H_2) was partially confirmed. More males played a dominant role in purchasing a microwave oven but this was matched by a higher percentage of joint purchase decisions made by the inexperienced white-women buyers (see Table 8-1). Overall, a male head of household participated in 80% of the first-time purchases of microwave ovens and white appliances. The equivalent percentage for households that had previous appliance purchase experience was 67% (Chi-square test, $p = 0.001$). Hence both previous purchase experience and the nature of the product appear to influence the husband's participation in the decision and shopping.

A much higher percentage (almost one third) of microwave oven buyers spent more than months first considering making the purchase and finally buying (see Table 8-1). By contrast, the most likely time-lag for the inexperienced white-women buyers was 1 - 4 weeks. Generally the time-lags of both groups were longer than experienced shoppers. Only 18% of the experienced white-appliance buyers spent more than three months considering - 38% spent less than a week. Although the differences in time-lag only approached statistical significance the differences in purchase time-pressure were highly significant (see Table 8-1). The great majority of microwave oven purchases were undertaken under no time pressure at all but over half of the white-appliance purchases involved some time-pressure. One explanation is that a microwave oven is usually purchased as a complement to existing cooking appliances. The purchase is consequently, for the most part, not essential for household cooking

Table 9.1

First-time buyer participation, consideration time and time-pressure

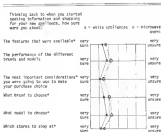
Participation and shopping participation:						
Product	Only Researcher	Partly Researcher	Joint	Partly Spouse		
Milk appliance	19.80	13.40	40.20	4.50		
Refrigerator oven	21.8	12.6	44.2	21.4	p = 0.0001	
Purchase time-lag						
Product	Same day	Under 4 week	1 - 4 weeks	5 - 12 weeks	3 - 6 months	Over 6 months
Milk appliance	7.80	16.70	26.20	16.10	37.40	17.70
Refrigerator oven	4.2	11.3	19.8	14.2	37.5	32.1
						p = 0.0007
Purchase time-pressure:						
Product	None	Slight	Moderate	Great	Extreme	
Milk appliance	47.00	18.00	16.00	8.00	7.00	
Refrigerator oven	33.8	6.7	6.8	2.9	1.8	p = 0.0008

white appliances are usually purchased and used in homes that have no alternative appliance to fulfill such a function. Sixty-five percent of the purchases made by experienced white-appliance buyers were made under time perceived time-pressure.

Choice Uncertainty

The profile of means illustrated in Table 9.2 shows that the microwave oven buyers were generally less sure about what to do and less knowledgeable than the equivalent white-ware buyers. The overall difference measures were significant at the universe level. Both groups of buyers share similar uncertainty about the performance of different brands and models. This reflects their common lack of shopping experience. The first-time buyers of white-ware ware, however, were sure about the features available, the important choice considerations, what brand to choose, which stores to shop and particularly what model to choose. A similar Hotelling T^2 analysis was run comparing the profile means for all of the white appliance shoppers and the profile of means of all the microwave oven buyers. The difference between these two vectors was significant ($p < 0.0008$) and all of the universe tests were significant ($p < 0.05$). It appears then that H_0 is substantially supported. Microwave oven buyers are less sure about aspects of the impending purchase and presumably will therefore be more likely to seek more information and exhibit higher shopping activity. It was conjectured that there might not be any difference in the uncertainty about where to shop between the groups of buyers because of previous generalized learning and store loyalty. The microwave buyers were, however, less certain about where to shop. The generally greater uncertainty displayed by the microwave oven buyers cannot be

Table 5.2
The Uncertainty of First-time Buyers



$$\text{Mahalanobis } D^2 = 3.1887, \text{ resulting } T^2 = 12.7089$$

$$F_{0.975} = 1.7610 \quad p = 0.108$$

*p<0.05 at the univariate level

largely attributed to a lack of previous shopping experience for which this particular factor is controlled for, the microwave oven buyers still tends to be more uncertain than the inexperienced white-appliance buyers.

Interests and Motivations

The two groups exhibited distinctly different search and shopping motivational profiles (see Table 3.2). The microwave oven buyers, on average, were strongly agreed that they had wanted to learn new things, enjoy the shopping, were interested in technical details, had made a real effort to identify potential operating problems and had sought to obtain the most modern technology. In short, H_{12} was supported: they registered higher average agreement scores with the five risk-minimization motivations. Given the differences in the perceived time pressures it was somewhat surprising that the difference in agreement with the statement indicating a desire to spend as little time as possible shopping and purchasing was, while in the expected direction, not statistically significant. This suggests that the inexperienced purchasers who recognized situational time-pressure did not convert this into a desire to effect a quick purchase, perhaps because they did not want to sacrifice product and other shopping objectives to seek expediency.

A comparison of all of the white-appliance buyers with all of the microwave oven buyers on the six interest and motivational measures resulted in all of the mean differences being significantly different ($p < 0.01$) including the quick-purchase motivation. This reflects the higher incidence of fully-informed replacement amongst the experienced white-appliance buyers and this group's greater willingness to react to such circumstances expeditiously.

Table 8-3
The interests and motivations of the first-time buyer



In the forced motivational questions, the microwave oven buyers showed a stronger desire to learn as much as possible and to enjoy the shopping for its own sake (see Table 5.4). A higher percentage of the white-appliance shoppers indicated they had wanted to learn just enough and spend as little time as possible, rather than enjoy the search for its own sake. These two results were presumably symptoms of the time pressure on some of the white-appliance buyers and the novelty of the microwave oven.

A higher percentage of microwave oven buyers perceived the variability in features to be greater amongst oven brands compared with the white-appliance buyers' perception of brand variability (see Table 5.5). Conversely, more white-appliance buyers perceived substantial variations in operating costs. The high number of microwave buyers who perceived very little difference in operating costs between brands of ovens may be a result of a belief that a microwave oven costs little to run, so interbrand differences in operating costs are inconsequential.

Choice Strategies

The microwave oven buyers mostly relied on the new information obtained in their shopping and on other people's advice to make their choice (see Table 5.6). Approximately half of the first-time purchasers of white appliances relied mostly on their past usage experience and knowledge to make their choice. This is confirmation that prior usage and experience, and knowledge acquired under low involvement learning, play a major role in the decision making of first-time purchasers of well established appliances. It seems that new information and advice acquired in active shopping and information search only plays a really significant role when a new innovation is purchased.

Table 5.3
The forced choice activities of inexperienced buyers

Product:	wanted to learn as much as possible	wanted to learn just enough	
Wrist appliance	48.75	50.25	
Wristwatch case	48.7	54.3	$p = 0.0007$

Product:	wanted to enjoy search for the best value	wanted to spend as little time as possible	
Wrist appliance	42.87	57.13	
Wristwatch case	57.3	42.7	$p = 0.0073$

Table 3.3

Perception of brand variability by Pipedrive products

	App's score	Very little	Some	A lot	Extremely	
Prisma						
Write appliance	7.75	6.25	33.33	33.33	29.33	
Microsaver over	5.5	12.1	24.2	27.3	29.3	$p = 0.1039$
Exosense						
Write appliance	7.33	33.33	46.67	16.67	7.33	
Microsaver over	4.0	8.0	24.0	27.7	21.8	$p = 0.0004$
Socle						
Write appliance	7.33	26.67	33.33	13.33	9.33	
Microsaver over	4.0	27.0	40.0	15.0	8.0	$p = 0.3287$
Scalix						
Write appliance	16.00	16.00	34.00	16.00	16.00	
Microsaver over	14.0	22.0	32.7	17.0	9.9	$p = 0.5632$
Opinion Labs						
Write appliance	16.00	32.00	53.75	13.00	11.00	
Microsaver over	14.0	45.0	27.0	9.0	3.0	$p = 0.0011$
Small Talk						
Write appliance	17.75	50.00	26.66	12.50	11.60	
Microsaver over	16.2	24.2	26.4	17.2	8.1	$p = 0.4380$

Table 2.6

The forced choice strategies of inexperienced buyers

Product	I mostly relied on past experience and knowledge	I mostly relied on the new information obtained
White appliances	56.5%	48.0%
Refrigerator units	58.3%	73.3%
$p = 0.0000$		
Product	I mostly relied on past experience and knowledge	I mostly relied on other people's advice
White appliances	67.0%	63.0%
Refrigerator units	71.4%	68.6%
$p = 0.0004$		

Extent of Shopping and Information Search

The microwave oven buyers, on average, considered more brands, considered a larger number of different sources, consulted a larger number of different commercial sources and independent sources and found a larger number of different sources useful (see Table 5.1). To this extent H_{21} was supported. They did not, however, shop more stores than the first-time purchasers of white appliances. There was also no difference in the incidence of actual shopping time: about 88% of both groups of first-time buyers spent up to half a day shopping.

The major differences in information source usage between the two groups were that a substantially higher percentage of microwave oven buyers considered, consulted and found useful manufacturers' brochures and labels, magazine advertising and television advertising (see Table 5.6). Half of the microwave buyers actively consulted brochures and labels compared with less than one third of the first-time buyers of white appliances. In addition, almost twice as many of the oven buyers used magazine and TV advertising. Sixty-seven percent of the microwave oven buyers read a magazine ad compared with 30% of the first-time, white-appliance buyers. This confirms that actual exposure to such advertising is much greater than the incidence of active seeking out of such a source.

The two groups did not show any difference in the incidence of active consultation of newspaper advertising. The oven buyers, however, reported a significantly greater exposure to newspaper advertising (73% compared to 58%). They also read a greater number of advertisements: thirty-seven percent of the microwave oven buyers read five or more newspaper ads, compared with 28% of the first-time purchasers of white appliances.

Table 8.7
Extent of shopping and search of first-time purchasers

Activity	Ways evaluations	Microcase results
Average number of stores shopped	2.82	2.67
Average number of brands considered	2.89	3.08 *
Average number of different sources considered	2.26	4.62 *
Average number of different commercial sources consulted	2.17	2.87 *
Average number of different independent sources consulted	0.71	0.95 *
Average number of different sources found useful	2.24	2.71 *

Regression: $d^2 = 0.2666$, totaling $T^2 = 24.0266$

$F(9,294) = 3.8990$, $p = 0.001$

* $p < 0.05$ at the univariate level

Table 8.8
Use of sources by first-time purchasers

	<u>Considered</u>	<u>Consulted</u>	<u>Used</u>	
<u>Salesperson</u>				
White appliance	65.7%	60.3%	46.3%	$p = 0.005$
Microwave oven	61.2	58.9	48.9	
<u>Magazine ad</u>				
White appliance	63.7%	66.6%	30.3%	$p = 0.146$
Microwave oven	58.8	66.4	29.1	
<u>Catalog</u>				
White appliance	53.7%	43.6%	34.8%	$p = 0.327$
Microwave oven	46.8	38.3	29.6	
<u>Brochure & label</u>				
White appliance	39.3%	32.3%	19.8%	$p = 0.004$
Microwave oven	61.2	56.1	48.4	
<u>Magazine ad</u>				
White appliance	13.8%	12.8%	2.8%	$p = 0.000$
Microwave oven	46.5	38.7	15.9	
<u>Television ad</u>				
White appliance	26.4%	18.3%	7.8%	$p = 0.000$
Microwave oven	51.4	29.5	19.9	
<u>Real person</u>				
White appliance	18.8%	9.8%	6.8%	$p = 0.266$
Microwave oven	9.3	4.7	4.7	
<u>Friend or relative</u>				
White appliance	18.3%	48.3%	39.3%	$p = 0.377$
Microwave oven	46.2	58.9	46.7	
<u>Consumer Reports</u>				
White appliance	38.3%	35.4%	16.4%	$p = 0.007$
Microwave oven	43.9	36.4	24.3	

A significantly greater number of the buyers of the new innovation consulted Consumer Reports. However, the use of a friend or relative although in the expected direction was not significantly different. Both groups did indicate that the friend or relative is a very important information source. Based on the statistics in Table 3.8, the friend or relative is the equal of the salesperson as an information source. However, Table 3.8 indicated that the salesperson still dominated as the most useful source for both groups - marginally less so for the experienced oven buyers. None of these buyers indicated that a friend or relative or manufacturers' brochures and leaflets were most useful, but overall the difference between the groups was not significant. An examination of the experienced white-appliance buyers responses indicated that 40% of them considered consulting a friend or relative, 34% of them actually sought out a friend or relative's advice and 22% found such advice useful. These incidents are significantly lower than those registered by both groups of inexperienced shoppers ($p = 0.0001$). Consulting a friend or relative is a characteristic of the inexperienced shopper, rather than a characteristic of the purchase of an innovation per se. In summary, H_{22a} and H_{22b} were not supported.

The cluster analyses presented in Tables 3.10 and 3.11 do show a tendency for experienced oven buyers to rely more on the friend or relative and to consult a wider range of different written information sources.

There was a significant difference in the source first consulted between the two groups of first-time buyers (see Table 3.9). A friend or relative dominated as the first source consulted except for the experienced oven buyers. This was not so for the inexperienced white-ware buyer. They tend to consult a catalog, newspaper ad or salesperson first.

Table 9-8
Sources first consulted and found most useful
by first-time purchasers

	Source first consulted		Source found most useful	
Source	N=1	N=2	N=1	N=2
Salesperson	22.00	14.75	20.50	20.00
Newspaper ad	11.1	10.0	8.0	8.2
Catalog	24.8	16.1	13.0	8.0
B & Labels	2.0	0.7	0.0	10.0
Magazine ad	0.0	1.1	1.0	1.1
TV ad	1.0	0.4	0.0	1.1
Department	4.0	1.1	1.0	2.0
Friend or relative	16.0	20.0	13.0	20.0
Consumer Reports	0.1	0.7	10.0	10.0
	p = 0.0000		p = 0.1000	

Table 9.18
 Inexperienced buyers' use of personal information sources

Personal sources consulted	White ware buyers	Microfilm copy buyers
Salesperson only	260	235
Friend or relative only	16	21
Neighbour only	2	0
Salesperson and friend	27	39
Salesperson and neighbour	2	0
Friend and neighbour	1	0
Salesperson, friend or relative and neighbour	9	6
No personal sources consulted	21	18
	<u>1000</u>	<u>1000</u>

Table 8.11
 Desperately Sought's use of written information sources

Written sources specified	Write Applicant Source	Write Source Applicant
Newspaper ad only	113	45
Magazine ad only	0	1
Catalog only	9	1
Brochures and letters only	8	8
Company reports only	3	2
Newspaper and catalog	8	5
RTI from commercial sources	2	0
RTI from written sources	4	8
None	29	22
55 other possible combinations	32	48
	189	163

Shopping Behavior

The shopping matrices presented in Table 4.12 indicate that a greater number of the microwave oven buyers shopped at many stores and considered many brands. These matrices differed from those presented in Table 4.11 in their reporting of fewer instances of one-store, one-brand shopping. The first-time buyers of microwave ovens were less likely to visit or call Sears than the white-appliance buyers but otherwise their shopping of the different stores did not vary significantly (see Table 4.10). Overall, Sears appears to be somewhat less popular amongst the microwave oven buyers. Fifty-nine percent of the inexperienced white-appliance buyers and 47% of the microwave oven buyers had a strong preference beforehand to shop at a particular store ($p = 0.0040$). This is consistent with the oven buyers' greater prior uncertainty about where to shop. Some 48% of the white-appliance buyers and 56% of the microwave oven buyers eventually purchased at the first store visited.

The hypothesis that microwave oven buyers would be somewhat loathe to shop at a discount store (H_{20}) was not supported. The microwave oven buyers appeared as willing, if not marginally more willing, than the inexperienced white-ware buyers to visit, call, visit first and purchase at a discount store or K Mart. The oven buyer's preference for the specialty appliance store and other types of stores (presumably primarily hardware stores) was at the expense of the furniture store, Sears and Ward (but not Penney's) rather than at the expense of the discount store.

The cluster analysis of stores shopped presented in Table 4.14 indicates that the experienced white-ware buyer is more likely to shop exclusively at Sears, the inexperienced microwave oven buyer is less likely to shop the specialty appliance store and Sears combination and the inexperienced buyer is more likely to shop at all four types of stores.

Table 3.12
The shopping behavior of the first-time buyers

Price-sensitive buyers						
Number of brands considered	Number of stores shopped					
	1	2	3	4	5+	
1	26.3	0.0	0.0	0.0	0.0	26.3
2	4.5	12.4	5.8	8.0	1.3	29.8
3	3.0	5.5	11.1	6.1	4.5	29.8
4	0.0	1.5	2.5	5.0	3.0	12.0
5+	0.0	0.0	0.0	1.0	4.0	5.0
	29.8	20.4	19.4	16.1	13.1	

Price-insensitive buyers						
Number of brands considered	Number of stores shopped					
	1	2	3	4	5+	
1	16.7	2.0	0.0	0.0	0.0	18.7
2	0.0	3.0	3.0	1.0	1.0	14.0
3	3.0	4.0	12.0	2.0	0.0	21.0
4	0.0	0.0	0.0	3.0	6.0	12.0
5	0.0	0.0	1.0	2.0	7.0	13.0
	22.4	14.7	25.0	7.0	26.0	

Table 9.13
Stores shopped by first-time purchasers

Store type	Visited		Entered		First shopped		Purchased	
	N.A.	S.A.	N.A.	S.A.	N.A.	S.A.	N.A.	S.A.
Appl. fence	61.29	60.65	12.35	10.36	25.71	43.40	37.65	37.80
Furniture	20.4	15.1	4.5	1.9	4.9	4.3	4.7	4.9
Department	33.3	37.4	3.5	3.7	9.0	8.9	3.8	5.9
Discount	36.8	50.7	1.5	0.5	7.1	8.9	5.7	5.8
Jeans	29.7	45.8*	4.0	3.7	25.6	19.2	21.3	24.3
to rdy	34.8	15.1	4.5	0.5	4.5	2.1	5.8	4.8
Recreys	17.5	29.6	2.0	1.9	4.5	6.3	4.3	4.9
R. Mart	11.4	12.2	0.5	1.9	2.2	3.2	1.0	1.8
Other	14.3	23.4	2.0	0.3	2.2	5.3	9.2	11.7
					<u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
	* $p < 0.05$				$p = 0.5417$		$p = 0.5711$	

Table 5.18
Combinations of store types and product components

Type of store shape combined into	Experienced white male buyers	Inexperienced white male buyers	Inexperienced nonwhite male buyers
Appliance	215	145	215
Seers	20	15	11
Department	1	0	3
Discount	1	0	3
Appliance & Seers	11	16	6
Appliance & Department	3	3	6
Appliance & Discount	4	3	5
Seers & Department	3	3	5
Seers & Discount	3	5	3
Department & Discount	5	0	1
Appliance, Seers & Department	8	6	6
Appliance, Seers & Discount	6	5	6
Appliance, Department & Discount	3	3	5
Seers, Department & Discount	3	3	1
All four types of store	6	18	11
None of these types of stores	3	8	8
	1804	1995	1323

Purchase behavior

Table 8.18 reveals that microwave oven buyers were not more likely to change their brand intentions during the shopping but were more likely to change their model intentions. The latter is consistent with their prior uncertainty. The microwave buyers were not less likely to buy on sale or negotiate a lower price compared with their fellow first-time purchasers of a white appliance. The incidence of sale purchases was still very high (over 70%).

Almost two-thirds of the inexperienced white-ware buyers stopped shopping because they found exactly what they wanted. In contrast, only about half of the microwave oven buyers stopped because they found what they wanted. This is also consistent with their prior uncertainty and greater reliance on information and advice to make their choice. They are not sure exactly what they wanted. In fact it is surprising so many first-time buyers of an innovation knew what they wanted and consequently got what they wanted.

The outcome of the purchase was very similar for both groups. Most 70% of the first-time purchasers of both product types were very satisfied and a further 33% were satisfied. General shopping experience does not seem to result in greater post-purchase dissatisfaction.

Summary

The factor structures of the microwave oven buyers generally replicated the structures of the white-ware buyers. The most notable departure was that uncertainties about how to choose, product features and product performance were more strongly associated with brand and model choice uncertainty. This is not to suggest that the uncertainty, motivations and behavior of the two groups were similar. They were not

Table 5.16
Purchase Behavior of the First-Time Purchasers

<u>Previously</u>		
<u>Switched brand during shopping</u>		
White appliance	33.3%	
Microwave oven	42.2%	$p = 0.5477$
<u>Switched model during shopping</u>		
White appliance	33.3%	
Microwave oven	55.5%	$p = 0.0000$
<u>Bought appliance on sale</u>		
White appliance	76.6%	
Microwave oven	73.4%	$p = 0.2942$
<u>Accepted a lower price</u>		
White appliance	26.2%	
Microwave oven	14.3%	$p = 0.2036$
<u>Brand loyalty not yet reached</u>		
<u>Accepted and chose same model over</u>		
White appliance	65.6%	34.4%
Microwave oven	48.6%	51.4% $p = 0.0010$

The oven buyers were less certain prior to purchase than the experienced white-ware buyers and were generally more motivated to learn new things, enjoy the shopping and avoid the two types of purchase risk.

More of the oven buyers had a longer time period between first considering making the purchase and finally buying and they were much less frequently under any purchase time pressure. They were often relied on new information and others' advice in making their choice. They also considered more brands and used a wider range of different information sources.

In particular, the oven buyers were heavier users of brochures and all forms of advertising than the inexperienced white-ware buyers. Consumer Reports was also more likely to be consulted but interestingly friends and relatives were not. Diffusion of innovation theory lays great emphasis on social networks and the role of personal information sources. While the microwave oven buyer more often consulted a friend or relative first and more often rated the source most useful than the white ware buyer the absolute dominance of this personal information source was not apparent. Perhaps the microwave oven is at a more mature stage of the diffusion process and personal influence is less important. The consulting of friends and relatives was, however, observed to be dependent on prior purchase experience whether the product is an innovation or not.

The average number of stores shopped by the microwave oven buyer was not significantly greater than the average number shopped by the inexperienced white-ware buyer. However, fewer of the oven buyers had a strong preference to shop at a particular store and they tended to shop at a greater variety of types of store.

Finally, the oven buyer was more likely to change his or her model selection during the shopping process and was less likely to find exactly what she wanted presumably because, at the outset, she had not known exactly what she wanted. In all, the microwave buyer displayed certain very distinctive shopping characteristics but the analysis confirmed the value of distinguishing between differences in shopping behavior that were due to previous shopping experience and differences that appear to be solely due to the innovative nature of the product.

CHAPTER TEN SCENARIO EXPERIMENT METHODOLOGY

Introduction

An experimental design study is a more controlled approach to the examination of the impact of various purchase situations on shopping and search attitudes... In such research the situation conditions are controlled so that the characteristics of the purchase circumstance are deliberately manipulated. The situation is created in the experiment. It is only recorded in the survey research approach. In an experimental design subjects can also be randomly assigned to the situations rather than self-selecting themselves to the situation categories, as happens with survey research.

Taking an ideal, "situational representativeness" perspective (Bruscia 1986), a field experiment should be undertaken where actual time-pressure or some other situational variable is manipulated and the consumers' search behavior observed. Unfortunately, the resources and skills needed for such a project would be huge... Indeed, strictly controlling the real world situations and then unobtrusively tracking the resulting behavior would be a truly daunting task. A poorer but more feasible substitute is to have experimental subjects role-play in a purchase situation... This may involve either actual behavior or the measuring of behavior intentions and other judgmental responses.

This chapter describes a role-playing experimental study that was undertaken to examine the impact of several purchase circumstances on women's shopping and information search behavior intentions when

purchasing a clothes washer. The two circumstances manipulated were shopping urgency and the familiarity of the shopping locale. The women were asked to imagine that they either had to quickly replace a failed clothes washer or that they had plenty of time to replace an aging but still operating appliance. In addition they were asked to imagine that they had been living in their dwelling for a number of years and were familiar with the local shopping centers and stores or alternatively that they had recently moved into a new town and were unfamiliar with the shopping locale.

Objectives of the Experiment

The basic objective was to observe the differential effect of these role-playing manipulations on search intentions, source preferences and search and purchase objectives. The role-playing allowed the capturing of initial responses at the onset of problem recognition, even if this onset was rather crudely manufactured. A secondary objective was to develop and test a number of theory based hypotheses. These hypotheses were generated from a review of general theories of information search and the literature reporting descriptive findings on consumer search behavior in purchasing home appliances. It should be recalled that the results of this literature search, reported in Chapter Three, were somewhat disappointing. Very few propositions emerged that described situational influences on the choice of information source or the basic goals of the search. This is reflected in the set of rather tentative and speculative hypotheses that are offered for testing.

Unfortunately, the proposed research is subject to most of the criticisms that apply to the use of the role-playing paradigm and the use of behavior intentions and judgment measures. An appraisal of

these problems and the efforts to minimize them or at least monitor them are discussed in a following section.

The research is one of the first applications of the experimental, stimulus-response paradigm to information seeking behavior. This methodology has been used to some effect in research investigating the persistence of personality traits across situations (for an extensive review of this literature see Bowers 1971), the choice of refreshment in different consumption situations (Joshi 1984), the choice of leisure activity in different situations (Bishop and Witt 1981) and the choice of snack foods, fast foods, meats and snack pictures in different situations (Bolt 1974, 1975a). Obviously the technique is not new to consumer behavior research, but it is new to shopping-search behavior research. The fact that it has been used by psychologists to study widely different behaviors and situations and has also been used in consumer behavior for over 10 years is a form of endorsement which offers some reassurance.

Use of Multidimensional Scaling

Another novel feature of the research is the use of multidimensional scaling within an experimental design. This technique has been used to capture consumer brand and product motivational spaces but has not been used to reveal the structure underlying consumers' information source preferences. Conceptually, MDS generates a Cartesian (i.e. psychological) field or motivational space.

Multidimensional preference models parameterize respondents as well as stimuli, thereby addressing the motivational aspects of individuals (or groups) in conjunction with their perceived stimulus structures. (Becker 1976, p. 2)

It has already been acknowledged that in this study little is known about the motivational aspects of source research. In such circumstances the application of this scaling algorithm may be particularly suitable.

Since they are primarily inductive in nature, multidimensional scaling methods are probably most useful in the early stages of the research whenever hypotheses are sought and exploration is in order. (Cattell 1976, p. 4)

If the purchase situation has a major motivational effect then clusters of subjects' ideal points (using a preferred distance model) or vectors (using a similar product model) should occur and be based on these situation treatments.

A caveat to this investigation of these effects is predicated on the preferential analysis revealing an underlying stable and unstable structure. This is not assured because of the number of parameters having to be estimated from the subjects' raw preferential responses. The co-ordinates of the sources and the positional or directional specification of the subjects in the same space will have to be fitted. In short, too much may be asked of the data and the analytical techniques.

The Scenario Treatment

The first and most important criterion in choosing and constructing the situation scenarios making up the purchase circumstances 'inventory' was that they should represent commonly occurring purchase situations. However, in constructing the role-playing scenarios it was decided that, with little loss of realism, two underlying purchase situation features, time-pressure and residential move to an unfamiliar environment, could be manipulated. To this extent a 'constructive' approach was taken to the selection of scenarios to be included in the situation inventory.

Clearly the situation scenario inventory could have been very large or very small depending on the desired degree of differentiation between the purchase situations. One common and important purchase situation scenario, "first purchase situation", however, could not be used because of the prior purchase experience that the experimental subjects would bring to the task. Almost all of the subjects (housewives) would have already purchased a clothes washer or refrigerator. Asking the subjects to place themselves into a first purchase situation and ignore their acquired experience would be quite hopeless and produce uninterpretable results. As a consequence all of the scenarios dealt with a replacement purchase of some form or another. Table 10.1 presents the four scenarios that make up the clothes washer shopping circumstances inventory.

Perhaps a greater number of scenarios would have been desirable. For example, an additional scenario dealing with a residential move to further circumstances could have been constructed. Unfortunately, the number of scenarios that could be studied was limited by design constraints. A between-group design meant that each subject responded to only one scenario. Therefore, the number of treatments (scenarios) in the design was limited by the desired number of subjects in each treatment cell and the availability of subjects. Large cell size was needed to enable a dichotomous blocking of the subjects on individual differences (e.g., inexperienced/experienced, low/high education). This effectively allowed such measures to be treated as a separate factor. All things considered it was decided to restrict the number of scenarios to four. This enabled the manipulation of time-pressure and residential move to an unfamiliar locale and the use of blocking factors.

Table 10.1
Purchase situation inventory

Example 1: Realize friend's purchase

You have been traveling to and from along the railroad years. You are not so familiar with the local sleeping quarters and locally owned stores.
You have a number of old friends who live in the city.
Your sleeping quarters is about 10 years old. It does not have all the amenities you would like. You stay in sleeping quarters nearby. You call a hotel owner who says that he is going out into town to see how the business is running. He will call you. There is no telephone. You do not have a car and you do not want to rent one. You want to purchase a new sleeping quarters very soon, in the next day or two at the most.
You need to purchase a new sleeping quarters very soon, in the next day or two at the most.

Example 2: Understand local situation

You have just moved to a new city. The city streets are wider than in your old town, although you know that there will be the same type of stores and shopping centers. You are not familiar with the local sleeping quarters and locally owned stores you have moving about.
You have your old friends but have not a few new people who seem quite friendly.
The sleeping quarters you have moved to does not have a sleeping quarters and there is no telephone. You do not have a car and you do not want to rent one.
You need to purchase a new sleeping quarters very soon, in the next day or two at the most.

Example 3: Realize friend's purchase

You have been traveling to and from along the railroad years. You are not so familiar with the local sleeping quarters and locally owned stores.
You have a number of old friends who live in the city.
Your sleeping quarters is about 10 years old. It does not have all the amenities you would like. You stay in sleeping quarters nearby. You call a hotel owner who says that he is going out into town to see how the business is running. He will call you. There is no telephone. You do not have a car and you do not want to rent one. You want to purchase a new sleeping quarters very soon, in the next day or two at the most.
You need to purchase a new sleeping quarters very soon, in the next day or two at the most.

Example 4: Understand local situation

You have just moved to a new city. The city streets are wider than in your old town, although you know that there will be the same type of stores and shopping centers. You are not familiar with the local sleeping quarters and locally owned stores you have moving about.
You have your old friends but have not a few new people who seem quite friendly.
The sleeping quarters you have moved to does not have a sleeping quarters and there is no telephone. You do not have a car and you do not want to rent one.
You need to purchase a new sleeping quarters very soon, in the next day or two at the most.
You need to purchase a new sleeping quarters very soon, in the next day or two at the most.

Scenario Ambiguity

It was inevitable that the subjects would perceive the situations presented in the scenarios differently. In fact, in the instructions, subjects were explicitly invited to apply individual interpretations by using their own past experiences to create a more vivid image of the situation in their mind. Consideration was given to specifying the scenarios in greater detail and more objectively (e.g., identifying a particular city, or familiarity in terms of previous appliance shopping). It was decided that this would greatly reduce the generalisability of the results. The effect of interpretative ambiguity is to increase the individual difference variation (i.e., within-cell variation in the single scenario, between-group design). On balance therefore this lack of precision, although regretted, can be tolerated because it makes the task of the impact of the situation scenarios more stringent, rather than more liberal.

Another concern was the confounding that existed in the manipulation of the two underlying locus situation dimensions. The purchase urgency treatment is confounded with factory-forced replacement in the familiar locus + urgency scenario (see Table 10.1). Similarly, locus unfamiliarity is confounded with residential move and all its attendant stress and demands. If the situations involving a residential move have a significant effect this effect cannot be solely attributed to the unfamiliar shopping environment (a state of nature which can exist even after long established residence). Considerable caution was therefore required in interpreting the reasons for significant differences between the individual or paired situations. This confounding could have been eliminated but would have required a doubling of the number of scenarios and the sacrificing of some of the realism of the scenarios.

The adequacy of the boundaries of the scenarios is a spatial and temporal ones also has to be considered in interpreting the subject's responses. Providing the responses are presented as subject's intentions or preferences at the initial stage of entering the purchase process, there appears to be little to be concerned about. On the other hand, generalizations about actual behavior in the purchase process (particularly late in the purchase process) based on the intention of motivational responses to the scenarios would be very suspect. Actual behavior is dependent on developments during the purchase process as well as the initial purchase situation. For instance, questions on what brand would be chosen would have less validity as such a choice may well depend on which brands have sales specialists offered during the search time. Such information is not specified in the scenarios. In the intention was to present the results in terms of the subjects' source search expectations, intentions, motivations and preferences on entering the purchase process, the spatial and temporal frames of the scenarios appeared reasonable.

Problems with Scenario Experiments

A hard time can be taken against the use of the sort of role-playing scenario experiment proposed for this research. In a recent attack Spence (1974) has stated that the threats to both internal and external validity posed by the approach are such as to render the technique worthless. He defines two sorts of role-playing: (empirical) role-playing is when the role is proscribed and can be independently monitored by the experimenter. (symbolical) role-playing is when the role is proscribed but cannot be independently and reliably monitored. The essential difference between the two is that in empirical role-playing the successful role adoption of the subject is verified by means other than post hoc reference to the dependent variable.

one concern is that frequently subjects may not be able to adopt or "get into" a role. The reasons for this may be due to: (1) a lack of direct personal experience or indirect vicarious experience with such a situation; (2) a lack of cognitive ability to generate mental imagery or scripts involving the role and behavior and anticipated outcome, and (3) the lack of mundane realities of the role and situation (Bronson and Darkeisich 1989). With hypothetical role-playing there is no way to check or whether the role "took", i.e., the internal validity. A particular concern is when no differences are observed as the null effect could be due to the weakness of the manipulation, or role adoption failure. In empirical roleplaying the data from subjects whose behavior "indicates" that they have not adopted the prescribed role can be discarded or separately analyzed.

Spencer, however, does not cite any such evidence of the failure of role-playing experiments to reproduce effects consistent with field or *in vivo* experimental results. He does quote a study where subjects were required to imagine being in an air accident. The degree of resulting affiliation with other passengers in the aircraft was the dependent variable. Given the grave doubts that subjects could adopt such a role-situation (because of the lack of familiarity with such extreme trauma) the results should indeed be questioned. This example points to the need to restrict role-playing studies to situations with which subjects are somewhat familiar, rather than the need to monitor the role adoption. Other examples where situation scenarios research might be suspect are when subjects are asked to imagine how they would behave when given the opportunity to administer severe electric shocks to strangers or how they would feel about using battery powered vehicles 18 years from now.

Subjects have to be able to generate realistic scripts in their mind. The more this script is tied to everyday experience the greater the validity of such role-playing exercises.

Jonger (1985) has summarized another threat to the validity of role-playing experiments, that of demand characteristics. These result from subjects' adoption of a particular approach to the experiment reflecting either a desire to give responses consistent with what they believe to be the purpose of the experiment, a desire to give responses that disconfirm what they believe to be the purpose of the experiment, or a desire to present themselves in the best possible light, whatever they believe to be the purpose of the experiment (e.g., saying that they always consult Consumer Reports when making a purchase decision).

In experiments where multiple treatments (scenarios) are administered it is likely that subjects will detect certain patterns in the treatments, particularly if the manipulations are obvious. Such patterns will provide cues to the purpose of the study and particularly foster the first two types of demand characteristics mentioned. However, subjects in a between-group design are exposed to only one treatment and consequently are unlikely to guess what is being manipulated unless there is something very artificial or extraordinary about the manipulation.

In summary, it has to be accepted that the scenario approach has substantial weaknesses. The word potential is used as there is not a great deal of evidence that indicated that, in general, role-playing is less valid than any other form of experimentation. Each role-playing study has to be judged on its own merits. With respect to situation scenario experiments Forster (1983) has pointed out

It is impossible to create in the laboratory the frequency, duration, scope, complexity and magnitude of some important human conflicts. (p. 10)

Such a criticism applies to most experimentation. In his view this is a justification for a total concentration on unobtrusive observation in natural settings. This is certainly desirable when developing the descriptive dimensions of situations. However, when the object is to determine whether response variation can be explained by the situation or to test situation hypotheses, an experimental framework is highly desirable. The role-playing paradigm offers such a framework at a fraction of the cost of realistic, *in vivo*, experimentation. This is the pragmatic, bottom-line justification for its use.

An attempt was made to minimize the above mentioned problems by employing a between-group design and by making the scenarios as realistic and familiar as possible. A series of manipulation check questions also monitored the subjects' role adoption. The responses of individuals who indicated they would not behave as they had indicated were omitted from any other analysis.

The Dependent Variables

The first set of probes sought to obtain the subjects' initial cognitive responses to the situation, initial reaction thought (scripts) and their stated set of information sources (see Appendix B). Unlike the remainder of the structured scales these responses were unscripted to the extent that motivation and source cues were not provided. Because the subjects were also responsive in their own words the answers were particularly rich in information.

The major sets of behavioral intention estimates were used. In previous situation scenario experiments, likelihood estimates that a particular product or brand would be purchased in different consumption situations were measured. In this study likelihood estimates that a particular information source would be consulted in a certain purchase situation were measured (see Appendix B for actual measures).

The first measure, initial behavior intentions, observed estimates of the most likely first search action that would be undertaken, given a set of eight possible steps. The alternatives were external actions in the sense that the set excluded searching one's own memory or consulting a spouse. This initial very first step of consulting external information sources is very important as it may set the tone and direction of the whole purchase process and eventual purchase choice. For example, the initial looking out of a Consumer Report's article may have very different implications than proceeding directly to a particular store or standing the newspaper for sales ads.

The items in this set were selected as a result of discussions with appliance manufacturers, senior market research executives, appliance salespeople and focus comments made by consumers in focus group discussions. The scale method of response (circling a number) was explained to the subjects using a display board.

The second set of behavior intention questions measured the subjects' likelihood estimates that they would undertake certain deliberate search, at some time before purchase. Estimates of the likelihood that a number of stores would be shopped and that only one brand would be considered were included with estimates that particular sources would be consulted

It is again emphasized that these measures reflected desires, intentions and motivations rather than the actual behavior of consulting that would occur. The latter is also dependent on situational circumstances that develop during the purchase process.

The third set of measures (pairwise preferences) were twenty-one pairwise preference scales involving seven of the major sources of information. Each subject was asked to indicate their general preference to consult one information source type over another in a particular situation. The costs and effort involved in consulting the source had to be considered as well as the benefits. These measures monitored the motivational-attitudinal stability of source preferences across the situation treatments and the consistency of the attractiveness of the types of information sources across information treatments. The seven information types were chosen either because they had been noted as important sources of information in past survey studies or because of their unique characteristics. Two random orderings of the items were used for the initial behavior intention measures, the behavior intention measures and the pairwise preferences.

The fourth and final set of measures (search goals) were seven scales assessing the importance of the achievement of certain goals or states through the search process. They were measures of search motivations that developed on entering the search process. Five of them had direct equivalents in the survey questionnaire.

The Experimental Design

The experiment involved a standard factorial design with four cells of approximately forty-five subjects in each cell. Each subject was exposed to a single scenario. The clothes washer was the product

featured in the four scenarios... This appliance was chosen rather than the refrigerator because research indicated that clothes washers are almost exclusively shopped for by the husband. As the subjects in the experiment were husbands this did not create external validity problems. Refrigerators are more likely to be a joint purchase involving the wife and husband. Consequently a joint husband/wife response would have been more appropriate in many cases. The disadvantage to not focusing on the refrigerator was that its failure is more desirable and requires greater replacement purchase time-pressure than the failure of a clothes washer.

The first page of the instrument presented an introduction, instructions and the assigned scenario in large type face (see Appendix B). At the top of each of the next seven pages of measures the situation scenario was reproduced in small type. The subject was asked to read the scenario again before responding to a new set of scales. Instructions on how to respond to the scales were given verbally, using display boards. Female research assistants were available to answer individual queries.

The set of questions were presented in the following order: unstructured, open-ended questions, initial behavior intentions, behavior intentions, purchase preferences and finally search goals. The ninth page contained the manipulation check or questions. The individual difference questions (age, education, employment, product experience... see Appendix B) were asked at the end of the information processing experiment that preceded the situation scenario treatment.

The Experimental Subjects

The subjects were drawn from PTA, church groups and an adult education class in Gainesville, Florida. Participation earned \$5.00 for their organisation. The sessions were held in the early evening in school cafeterias or church halls. Subjects participated in 12 groups varying in size from 3 - 25 (see Appendix G). The seating frame was very similar to that used in a Federal Trade Commission delinquent study undertaken in 1971. Gainesville is a southern, university city with a population of about 125,000. An unsuccessful attempt was made to build a sample which contained too many highly educated subjects. The first problem was that the school PTA groups in the up-scale residential areas were much more successful at recruiting participants. A further distortion was caused by the greater proportion of lower educated housewives in the group of subjects whose responses had to be discarded. Nineteen subjects' responses were discarded as a result of their responses to the first experimental exercise reported in Chapter sixteen. In addition a further 14 housewives' responses failed the scenario manipulation check criteria outlined in the next section.

A basic profile of the final 103 participants is presented in Table 18.2. It can be seen that the sample is up-scale in terms of education and household income. This distortion was addressed by blocking on these measures and adding them as a factor to the experimental design.

Manipulation Checks

The purpose of the manipulation checks was to monitor the role adoption and affective perceptions of the subjects. A series of questions was asked at the end of the role-playing exercise that measured the subjects' familiarity with the scenario circumstances, the realism of

Table 18.1
Profile of sample subjects

Characteristic ^a	White, <i>N</i>	Black, <i>N</i>	Total, <i>N</i> = 100
Sex: children under primary 5, balanced as a ratio 1:1	50	50	100
Mean age: total for children 5, and children in primary 5, by race ratio 1:1 (also by age and sex)	7.02 7.02	7.02 6.94	7.00
Group-level control 1: difference, between groups	100.0 7.0	5.0 6.9	100
Quadratic, linear relationship	100 1.0	5 0.0	100
	White, <i>N</i>	Black, <i>N</i>	
Age	40 4.0	60 6.0	100
Gender	50 5.0	50 5.0	100
	White, <i>N</i>	Black, <i>N</i>	
Education	100 1.0	50 0.5	100
	White, <i>N</i> = 100	Black, <i>N</i> = 100	
Group-level control	100 1.0	50 0.5	

^aThe individual difference variables that were used in model fit.
Other characteristics are presented in Appendix B.

the scenarios and their confidence in their responses (see Appendix B). The instructions exhorted the subjects to give frank answers to the questions. The first scenario-experiment analysis that was undertaken was on the question that asked whether, in truth, the subject thought she would behave as she had indicated. It was predetermined that the responses of any subject who, on completing the exercise, agreed with this statement, would be automatically dropped from any further analysis. Eight agreed somewhat agreed, four agreed and one strongly agreed with the statement. One other woman strongly disagreed that she found it easy to put herself in the situation and also strongly agreed that she found it difficult to answer the questions. These fourteen women's responses were consequently omitted, which reduced the number of experimental subjects to 141, 82% of the original 174. The responses of the screened subjects to the manipulation check questions are presented in Table 10.3. Ninety-one percent, at least to some extent, agreed they found it easy to put themselves in the situation, 82% found the situation realistic and 77% agreed the situation was familiar.

The subjects were asked, in an open-ended question, to state how much time they had to make the purchase. All subjects in the urgency treatment indicated they only had one or two days, at the most, to make the purchase. On the other hand, the great majority of the subjects in the no urgency condition indicated they had "as long as I wanted" or some such statement. Only two indicated a day or two and even this may have been "as long as wanted" in the view of these subjects. Based on the answers to the question on how familiar the locally owned appliance stores were used to be, the local familiarity treatment did not appear to "help" nearly as well as the urgency manipulation.

Table 10.3
 Repetition check responses

Repetition check	Strongly disagree	Disagree	Neutral disagree	Neutral disagree or agree	Somewhat agree	Agree	Strongly agree	
The situation was familiar	1.0	0.0	4.2	18.4	18.8	30.8	18.8	100%
The situation was realistic	0.7	0.7	1.4	8.4	9.8	58.0	20.8	100%
I found it difficult to answer the questions	30.3	40.3	7.7	11.8	14.0	3.5	0.0*	100%
In truth, I don't think that I would behave as I indicated	18.7	12.4	3.8	11.1	0.0*	0.0*	0.0*	100%
I found it easy to put myself in the situation	0.0*	1.4	3.8	3.8	7.7	88.1	20.0	100%

* Subjects whose responses fell in these categories were eliminated from the analysis.

Although the treatment significantly influenced the distribution of responses, around 32% of the subjects in the new, unfamiliar locale (green) condition indicated that they role-played as if they were at least somewhat familiar with the locally used stores (see Table 10.4). They should not have made this assumption. One reason why they incorrectly assumed familiarity was that they did not clearly understand the meaning of "locally used" and included chain stores such as Sears in this category. The women would still be at least somewhat familiar with such stores. This reason emerged in some informal questioning of subjects in one of the later experimental sessions. Another reason for women claiming some familiarity with local stores is a new locale was that as the stores looked familiar based on the stores would be somewhat familiar (i.e., similar to local specialty stores the women had encountered in the past).

In summary, it is not easy to make any overall judgments on the success of the role-playing exercise or its validity. Most subjects did not report having any problems with the situation role-playing or the questions but on the other hand there clearly was not a common perception of the characteristics of the unfamiliar locale scenario. The manipulation checks *did*, however, enable the screening of subjects. It might be argued that, based on their responses, some subjects should have been excluded. For example, some subjects indicated they found it difficult to answer the questions and place themselves in the situation and yet indicated they would have behaved as instructed. These subjects were given the benefit of the doubt and their responses were included.

Table 10.4
 Situation scenario perceptions

<u>Treatment</u>	<u>Estimated Purchase Time</u>	
	<u>One or two days</u>	<u>No time</u>
Urgency	40	0
No urgency	0	20
	<u>40</u>	<u>20</u>
	40	20
		<u>140</u>

$P < 0.0001$

The rated familiarity of local stores

<u>Treatment</u>	<u>Very familiar</u> <u>20-40%</u>	<u>Familiar</u> <u>40-60%</u>	<u>Intermediate</u> <u>60-80%</u>	<u>Not familiar</u> <u>80-100%</u>	<u>Not at all</u> <u>100-120%</u>	<u>Not at all</u> <u>120-140%</u>	
Real-time locale	0.00	0.00	0.00	10.70	47.30	29.00	1000
Non-locale	30.00	20.00	0.00	23.00	7.00	2.00	1000

$P < 0.0001$

The results of the open-ended responses to the scenario purchase circumstances are presented in the following chapter. This is followed by chapters that present the effects of the scenario manipulations on the search-interest measures, the behavior intention measures and the private preference measures. All of these results present the attitudes and disposition of the consumer at the simulated initial problem recognition stage of the purchase process.

JOANNE ELLER
SCENARIO EXPERIMENT - OPEN-ENDED RESPONSES

The broad purpose of the open-ended questions was to capture the homemaker's thoughts about what she would do in the situation presented by one of the four scenarios. Certain prompts were provided to assist in recording the process and undoubtedly these did, to some extent, structure her thoughts. First of all each subject was asked to express her reaction to the situation and back by completing a sentence starting with, "In purchasing a clothes washer in the situation and conditions described above, I would feel . . ." The next two sentences that had to be completed started with, "The first thing I would do in this situation would be to . . ." and "The next thing I would do would be to . . ." It was intended that these prompts would trigger thoughts about shopping and search behavior. Finally, subjects were explicitly asked to name the sources of advice or information they would consult, in the circumstances, before making the purchase.

Results

Four typical responses to these open-ended questions for each treatment are presented in tables II.1, II.2, II.3, and II.4. Although several of these subjects expressed similar intentions they are each, in various ways, unique and this illustrates the problem of trying to make summary statements about the homemaker's intentions. Two of the more creative and unusual problem solving approaches of just this subset of 18 subjects were Homemaker G's use of commercial laundry brands as a guide to local brand suitability and Homemaker H's bridge-playing 'partner' to obtaining local advice.

Dependent variables: economic freedom
four examples of individual countries

[illegible]

100

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The first thing I would like to tell a potential reader is to actually consume books for the first time.

After years working, I couldn't do without the two wheels that make me feel like a professional again. The craftsmanship and the great service were just what I needed.

Source: *Journal of the American Statistical Association*, 1997, 92, 1037-1046.

With several things that you bring I am interested in your teaching. Consider teaching and think about it. As well as your service experience and how long that has been in. Besides, when go to the state where you want to teach. You're

100

The author(s) is/are responsible for the accuracy of the information presented herein.

What about the fact that I would be the only person that would be to use the "I" word? I don't mind using the word "I" because I know my feelings are important.

The next thing I would do would be to get the
company reorganized, and then I would
get the stockholders to agree to the
plan. I would then go to the
bank and get a loan.

Keywords: *workplace spirituality, spirituality, spirituality in the workplace, spirituality in the workplace, spirituality in the workplace*

Keywords: *depression, self-esteem, self-efficacy, coping, social support, social desirability, self-blame, self-esteem, self-efficacy, coping, social support, social desirability, self-blame*

By comparing a structure within the cell with the
one in the nucleus, the cell can determine if the
DNA is damaged. If the DNA is damaged, the cell
can then decide if it should divide or not.

[illegible][illegible]

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1. **Introduction**
 2. **Methodology**
 3. **Results**
 4. **Conclusion**

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The things going on would be to make it clear that we're not in a bad situation. We did not know how long it would take to finish, and we didn't know how long it would take to finish. We didn't know how long it would take to finish. We didn't know how long it would take to finish.

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Table 11.3

**No agency-familiarity scenario treatment:
Four examples of segmented responses**

The best thing I could do in this situation for several years. The one who I would like with the best situation tonight just tonight would be me.

The best thing I could do in this situation for me is to stay.

The best thing I could do in this situation for me is to stay. I would like to stay and not go away. I would like to stay and not go away. I would like to stay and not go away. I would like to stay and not go away.

The best thing I could do in this situation for me is to stay.

Segment 1

In purchasing a vehicle, I would like to see the situation and see the situation. I would like to see the situation and see the situation.

The best thing I could do in this situation would be to see the situation and see the situation.

The best thing I could do in this situation would be to see the situation and see the situation. I would like to see the situation and see the situation.

There are some things you would like to see in this situation. I would like to see the situation and see the situation.

Segment 2
Segment 3
Segment 4

Segment 5

In purchasing a vehicle, I would like to see the situation and see the situation. I would like to see the situation and see the situation.

The best thing I could do in this situation would be to see the situation and see the situation.

The best thing I could do in this situation would be to see the situation and see the situation.

There are some things you would like to see in this situation. I would like to see the situation and see the situation.

Segment 6
Segment 7
Segment 8
Segment 9
Segment 10

Segment 11

In purchasing a vehicle, I would like to see the situation and see the situation. I would like to see the situation and see the situation.

The best thing I could do in this situation would be to see the situation and see the situation.

The best thing I could do in this situation would be to see the situation and see the situation. I would like to see the situation and see the situation.

There are some things you would like to see in this situation. I would like to see the situation and see the situation.

Segment 12
Segment 13
Segment 14
Segment 15
Segment 16

Segment 17

In purchasing a vehicle, I would like to see the situation and see the situation. I would like to see the situation and see the situation.

The best thing I could do in this situation would be to see the situation and see the situation.

The best thing I could do in this situation would be to see the situation and see the situation. I would like to see the situation and see the situation.

There are some things you would like to see in this situation. I would like to see the situation and see the situation.

Segment 18
Segment 19
Segment 20
Segment 21
Segment 22

Table 11.4

An urgency-unfamiliarity scenario (continued)
Four examples of open-ended responses

The first thing I would do is to see why. The two people are ordered to go away, although the boss says there will be no real going of places and nothing further than company and family must mean you have nothing more.

For when you and friends had, had well a few new people who were quite friendly.

The realisation that you have shared with them that there is a strong reason why to stand 10 years old. In order to work that it is better and there are more all the meaning options you could take. You had the idea you would like to get a new working order.

You can take your time in dealing the relationship further.

Scenario 1

In purchasing a clothes jacket for the algorithm and wardrobe about last week. I think that there is no great need. There is or no need in shopping. It's only the need of a coloured jacket.

The first thing I would do would be to take a look at the need to go to the wardrobe and see what the need is for. I would go to the

The next thing I would do would be to take a look at the need to go to the wardrobe and see what the need is for. I would go to the

Please note what you would need to get your wardrobe full in the first situation before making your purchase.

Consumer theory: For priority product
 Consumer: important and
 make sense
 algorithm
 algorithm

Scenario 2

In purchasing a clothes jacket for the algorithm and wardrobe about last week. I think that there is no great need. There is or no need in shopping. It's only the need of a coloured jacket.

The first thing I would do would be to take a look at the need to go to the wardrobe and see what the need is for. I would go to the

The next thing I would do would be to take a look at the need to go to the wardrobe and see what the need is for. I would go to the

Please note what you would need to get your wardrobe full in the first situation before making your purchase.

Consumer theory: For priority product
 Consumer: important and
 make sense
 algorithm

Scenario 3

In purchasing a clothes jacket for the algorithm and wardrobe about last week. I think that there is no great need. There is or no need in shopping. It's only the need of a coloured jacket.

The first thing I would do would be to take a look at the need to go to the wardrobe and see what the need is for. I would go to the

The next thing I would do would be to take a look at the need to go to the wardrobe and see what the need is for. I would go to the

Please note what you would need to get your wardrobe full in the first situation before making your purchase.

Consumer theory: For priority product
 Consumer: important and
 make sense
 algorithm

Scenario 4

In purchasing a clothes jacket for the algorithm and wardrobe about last week. I think that there is no great need. There is or no need in shopping. It's only the need of a coloured jacket.

The first thing I would do would be to take a look at the need to go to the wardrobe and see what the need is for. I would go to the

The next thing I would do would be to take a look at the need to go to the wardrobe and see what the need is for. I would go to the

Please note what you would need to get your wardrobe full in the first situation before making your purchase.

Consumer theory: For priority product
 Consumer: important and
 make sense
 algorithm

Table 11.8

Open-ended Feeling about situation

<u>Open-ended Feeling about situation</u>					
<u>Incident</u>	<u>Frequent</u>	<u>Seldom</u>	<u>Never</u>	<u>Confidence</u>	
Urgency	25.55	10.25	10.25	54.25	100%
No urgency	0.00	8.25	10.25	81.50	100%
Familiar locale	25.55	0.00	25.55	47.25	100%
Unfamiliar locale	25.55	12.25	7.25	55.25	100%

n = 100

<u>Effect</u>	<u>Iterative test no probability</u>	<u>Marginal test no probability</u>
Urgency (U)	0.0000	0.0000
Familiarity (F)	0.0429	0.0429
Experience (E)	0.2534	0.2813
U x F	0.4548	0.4291
U x E	0.4779	0.7584
F x E	0.4838	0.4530
U x F x E	0.2844	

Feelings

Four general types of emotional reactions emerged: the first expressed a concern about being pressured or rushed (e.g., itemiser B and E in Tables 11.1 and 11.2), the second type of feeling was one of discomfort about what to do (e.g., itemiser C), and the third was a reaction indicating apprehensions about the circumstances or need to buy a new appliance (e.g., itemiser A). The fourth category included all expressions of confidence and enthusiasm (e.g., itemisers L, O, R, I, K, M, N and Q). Unfortunately 28 (26.5%) of the subjects instead of expressing a feeling converted the sentence into an action statement (e.g., itemisers F, J, S and P). This result suggests that rather than reacting emotionally to such circumstances many consumers respond practically by thinking immediately about solutions. Such responses were excluded from the analysis of the emotional reactions to the scenario circumstances.

Table 11.3 presents the incidence of the four emotional responses by scenario treatment. The log-linear model fitting analysis revealed that both treatments had a significant effect on the responses. The urgency treatment produced more frequent feelings of pressure but only in 40% of the subjects in that condition. While the extent of the pressure may be understated, as part of the apprehensions expressed by other subjects may have been due to the perceived pressure, almost a third of the subjects did not react negatively to the situation. This suggests that for quite a number of the subjects the pressure or urgency may not have been a critical feature of the situation and therefore a critical determinant of their behavior. Confidence and enthusiasm about making the purchase was very high amongst the subjects in the no urgency treatment.

The effect of locale familiarity on the subject's feelings was, in some ways, rather surprising. Expressions of uneasiness were more frequent

to the unfamiliar local treatment, but confidence and enthusiasm was also higher than in the familiar local treatment. In contrast, a much higher number of the subjects in the familiar local treatment were unhappy. This was largely due to 10 out of the 38 subjects in the urgency-familiar treatment expressing unhappiness about the sudden failure of their appliance (e.g., responder A in table 11.1).

It might have been expected that the more experienced and better educated would have more frequently expressed feelings of confidence and enthusiasm. The responses were in the expected direction but were not statistically significant.

First Action

Almost half of the subjects indicated they would immediately start to comprise sleep or go straight to a particular store (see table 11.6). The next most frequently mentioned action was to read a Consumer Report's article and this was followed by seeking the advice of a friend or relative and looking up the rules etc. in the newspaper. It was expected that because of its accessibility many more of the subjects would have first thought of consulting newspaper advertising.

Neither treatments nor experience and education significantly influenced the incidence of these responses. The most noticeable effect was that of local familiarity on the initial consulting of the Yellow Pages. Eight of the nine subjects indicating this would be their first step were in the unfamiliar local treatment condition.

Special Activities

All of the sources of information mentioned by any of the subjects' responses were recorded and their frequency tabulated. The results are presented in Table 11.7 by urgency treatment, familiarity treatment, experience and education. Consulting of a friend or relative was mentioned

Table 11.6
 Demanded first suggested action

The first thing I would do in this situation would be to...		% of respondents
Shop around for new washer	37.8	
Go straight to a particular store	<u>30.8</u>	47.8
Read a Consumer Reports article		18.1
Seek the advice of a friend or relative		12.7
Look for sales ads in the newspaper		10.9
Look up the Yellow Pages		8.9
Discuss purchase with husband		<u>2.9</u>
		100% n = 138

Table 11.2
 Sources used that would be consulted

	Agency		Certification		Particular Experience		Description		Benefits
	High	Low	High	Low	Under 2	2-10 yrs	No. of/Type of/Total	No. from Col/Total	
Printed or retail or	2	1	1	1	1	1	1	1	1
Consumer Reports	18.4	18.8	88.2	88.8	14.4	58.88	88.1	21 (21)	88.8
Consumer Reports	18.4	88.8	88.2	88.4	88.8	88.88	88.8	21.188	88.7
Consumer Reports	18.7	88.4	81.8	88.3	88.8	88.8	88.8	81.8	81.1
Consumer Reports	18.4	18.8	18.4	18.3	18.8	18.8	18.8	18.8	18.8
Consumer Reports	17.7	18.2	17.1	18.8	18.2	18.2	18.8	18.7	18.8
Consumer Reports	17.7	18.3	18.2	17.1	17.2	18.2	18.4	18.4	18.4
Consumer Reports	18.8	18.7	18.8	17.1	18.8	18.8	18.8	18.8	17.4
Consumer Reports	18.8	18.8	18.8	18.8	18.8	18.8	18.7	18.8	18.8
Consumer Reports	18.3	18.2	18.8	18.8	18.8	18.8	18.8	18.8	18.8
Consumer Reports	18.8	18.2	18.8	17.1	18.8	18.8	18.8	18.8	18.8

a. p < 0.05

re. p < 0.0005

1. (after derivation to be specified)

most frequently followed by Consumer Reports and salesperson. The incidence of mention of the other sources is considerably lower.

Each of the treatments had an effect on the incidence of mentioning the Yellow Pages. None of the subjects in the Familiar Surrounds Treatment mentioned consulting the Yellow Pages compared to one in five of the subjects in the unfamiliar town's treatment who named this source.

The less experienced were often indicated they would consult a friend or relative but education level had the biggest effect on the sources named. None of the higher educated indicated that they would consult Consumer Reports and catalogs while some of the lower educated mentioned the latter Business Bureau or Chamber of Commerce as sources of information about store reputations. It should be noted that two of the relationships in the table were positive, by log-linear tests of partial association, to be significant. This was caused by an education-experience relationship.

Summary

The open-ended responses allowed the subjects to think about how they would go about shopping for a new washer in the described circumstances. At the very least, the responses did indicate that most of the women were able to formulate a shopping strategy for dealing with the situation. Presumably their strategy or "search script" that was described in their responses to the open-ended questions formed the basis for the subjects' later responses to the intention, preference and search behavior scales.

The scenario treatments had some predictable effects on the subjects' emotional reactions to the situation but hardly influenced their stated behavioral intentions. Almost half of the subjects thought that the first action they would take would be to go shopping. The next but much less

frequent action described was to consult Consumer Reports. The three most frequently named sources of information were friends or relatives (excluding husband), Consumer Reports and a salesperson. The other sources such as newspaper advertising, brochures and labels and catalogs were much less frequently mentioned.

CHAPTER TWELVE THE POWER OF TWO SCENARIO TREATMENTS ON SHOPPING GOALS

Introduction

This chapter presents the findings on the impact of the scenario treatments on the consumers' rated importance of the following search and shopping goals:

- to get the purchase made as quickly as possible,
- to find out about locally owned appliance stores (their prices, services, credit policies etc.),
- to learn new things about clothes makers,
- to find out what might be wrong or go wrong with any or all of the options looked at,
- to enjoy the shopping for its own sake,
- to obtain the most modern technology available in new clothes makers, and
- to obtain a real sense of personal satisfaction and achievement from personally making the decision.

The derivation of six of the goals was discussed in Chapter Five. A measure of the importance of finding out about locally owned appliance stores was included in the experimental exercise, and its highlight should have been included in the survey research questionnaire. The measure of the importance of obtaining satisfaction from making the purchase, which was dropped from the survey questionnaire was also added to the experimental instrument. Measures of the subjects' uncertainty or nervousness about what to do were not included in the scenario experiment. Again, to highlight, this was a mistake as it would have been desirable to compare the treatment effects on uncertainty received in the scenario experiment with the survey research results. However, the desire to reduce

urgency was assumed to drive several of the search and shopping goals and to that extent was measured in the experiment.

Hypotheses

The importance of the search goals was expected to differentially vary across situations. In situations where time is scarce or any other demands are being made on the individual's time, a shopper will concentrate on making sure primary goals are achieved and perhaps abandon subsidiary or secondary goals that require more time and emotional and intellectual effort. The narrowing of the search objectives is a specification of a general narrowing of motivational or psychological perspective under stress (Jolles 1981). The more important objectives were believed to be the finding out about what might be wrong or go wrong with washers, making the purchase quickly when under time-pressure and finding out about local stores when in a new locale. It was expected therefore, that the other goals would be treated as less important in the urgency and unfamiliar locale situations. The above assumptions led to the following hypotheses:

- H₁: The achievement of the following outcomes will be rated less important in the urgency situation:
 - a) learning new things about clothes washers
 - b) enjoying the shopping for its own sake
 - c) obtaining the most modern technology available in new clothes washers
 - d) obtaining a real sense of personal satisfaction and achievement from personally making the decision
- H₂: The achievement of the following outcomes will be rated more important in the urgency situation:
 - a) making the purchase quickly
 - b) finding out what might be wrong or go wrong with any or all of the appliances looked at
- H₃: The achievement of the following outcomes will be rated less important in the unfamiliar locale situation:
 - a) learning new things about clothes washers
 - b) enjoying the shopping for its own sake
 - c) obtaining the most modern technology available in new clothes washers

- d) obtaining a real sense of personal satisfaction and achievement from personally making the decision
- e) The attainment of the following outcomes will be rated more important in the unfamiliar local situation
 - a) finding out about locally owned appliance stores
 - b) finding out what might be wrong or go wrong with any or all of the appliances looked at.

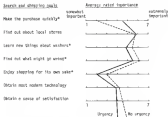
Results

The two most important goals in all of the treatments were to find out about the local appliance stores and to find out what might be wrong or go wrong with any or all of the appliances looked at. The average rated importance of these two goals were respectively 5.8 and 5.5 on the 7-point scale where 7 indicated extremely important. Learning new things about clothes washers was the third most important goal and the lowest rated goal was to enjoy the shopping for its own sake.

Main Effects

The urgency manipulation had the greatest effect on the profile of goals (see Table 12-1). It considerably increased the importance of making the purchase quickly (G_{14a}) and reduced the importance of learning new things about washers (G_{14b}) and enjoying the shopping for its own sake (G_{14c}). The reduction in importance of obtaining a real sense of satisfaction and achievement from personally making the decision (G_{14d}) approached significance ($p = 0.06$). Although in the expected direction, urgency did not have a significant effect on the importance of obtaining the most modern technology. The effect of the manipulation on the importance of finding out what might go wrong or be wrong with the appliances looked at was in the opposite direction to that expected. In average, the subjects who did not have to urgently purchase a washer rated this goal as more important than the subjects who had to urgently purchase a washer.

Table 12.1
The effect of urgency on goal importance



Wilcoxon's $Z^2 = 2.0486$, totalting $\chi^2 = 81.4086$

$[17, 134] = 11.1924$, $p = 0.002$

^a convenience task, $p < 0.05$

The locale familiarity scenario treatment had no main effect (apart on goal importance (see Table 12.2)). Consequently none of the hypotheses were supported, although the differences between the means on a number of the measures (finding out about local stores, learning new things, enjoying shopping for its own sake) were in the expected direction.

The only blocking factor to have an effect on the goal importance section was education (see Table 12.3). Compared to those who claimed some form of higher education, the lower educated group indicated that shopping for its own sake and obtaining a real sense of satisfaction and achievement from personally making the decision were more important goals. Information Effects

The main effect of urgency and education on the goal importance measures told only part of the story as several of these effects were moderated by locale familiarity, purchase experience and education.

The effect of urgency on the importance of making the purchase quickly was greatest on the experienced shopper in a familiar locale and least on the inexperienced shopper in a familiar locale (see Figure 12.1). A possible explanation is that the experienced shopper in a familiar locale can and will react quickly and confidently. On the other hand a less experienced shopper in a familiar locale will be less confident and sure about what to do but knows that there are familiar information sources and stores to seek advice from and shop. The intermediate has friends who can provide a buffer, to the reaction... These factors will reduce her desire to purchase quickly... In an unfamiliar locale where trusted sources of information and friends' help are less available, the inexperienced shopper behaves similarly to the experienced shopper.

Table 10.2

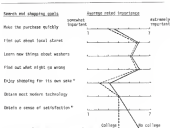
The effect of locale familiarity on goal importance



Manicorders: $R^2 = 0.2951$, Retailing: $R^2 = 0.3367$

$F(7,134) = 1.4033$, $p = 0.208$

Table 12.3
The effect of college education on goal importance



Relationships $R^2 = 0.5715$, Shopping $r^2 = 0.5548$

$F(7,134) = 3.4659$, $p = 0.019$

* univariate test, $p < 0.05$

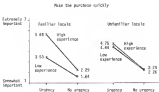


Figure 12.1 The three-way interaction effect of urgency, familiarity and experience on the importance of making the purchase quickly ($F(1,328) = 9.95$, $p = 0.002$).

Further analysis also revealed that the effect of urgency on learning new things and identifying problems was not general. It only influenced the more experienced consumers' ratings of these two goals (see Figure 12.2). In the urgency condition the more experienced shopper was less interested than the inexperienced shopper in learning and figuring out what might go wrong. In circumstances where there was no urgency the more experienced shopper was more interested in learning new things and figuring out what might go wrong. The results of the no urgency treatment are surprising to the extent they run contrary to the assumption that the inexperienced shoppers would be more interested in learning new things and figuring out what might go wrong.

Underlying the effect of urgency on the importance of learning new things about clothes washers was further complicated by the three-way urgency-familiarity-education interaction illustrated in Figure 12.3. The lower educated consumers were sensitive to the urgency treatment when asked to imagine themselves in a familiar locale. However, it was the higher educated consumer who was sensitive to the urgency treatment in the unfamiliar locale condition. The comparatively high importance placed on learning new things by the lower educated when visiting an urgent purchase in unfamiliar surrounds is very difficult to explain. The better educated appear to have recognized the demands this particular situation makes on their time. Clearly the lower educated did not interpret the situation in the same way.

While there were no main effects of the treatments or individual difference factors on the importance of obtaining the most modern technology available there was one significant interaction effect on this measure. Urgency has very little effect on the importance of obtaining

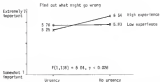
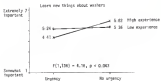


Figure 13.2 The two-way interaction effects of urgency and experience on the importance of learning new things about visitors and finding out what might go wrong with the model's locked sit-

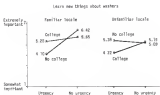


Figure 12.2 The three-way interaction effect of urgency, familiarity and education on the importance of learning new things about workers [$F(1,156) = 5.70$, $p = 0.008$]....

the latest technology amongst those who perceived that little difference existed between the systems [see Figure 12.4]. However, the boundaries also indicated that a big difference existed between the brands rated the obtaining of the next system technology as a much more important objective in the non urgent condition compared with the urgency condition. This result appears to illustrate the proposition that the risk associated with not obtaining the latest technology is only a perceived concern when products are perceived to vary significantly. Under time-pressure, those who perceived that big differences exist were less interested in obtaining the latest technology presumably because they did not have the time to determine which brands possessed the best new technology. When they are not under pressure buyers holding such brand perceptions are more interested in obtaining the latest technology because they feel they have the time to search and shop so as to minimize the risk of not purchasing the latest.

Summary

The effect of the purchase scenario treatments and individual difference measures on the respondents' rated importance of a set of search and shopping goals was not as straightforward as expected. The locale familiarity manipulation did not have a direct effect on any of the dependent measures. Its failure to even significantly influence the importance of finding out about the locally used appliance stores tends to confirm that this was a weak manipulation. There may, however, have been a ceiling effect that prevented any treatment effect as subjects in both treatments rated finding out about the local stores as very important. Past purchase experience also failed to have a direct impact. On average the lower educated found shopping for a clothes washer an intrinsically more interesting and challenging task than the better educated.

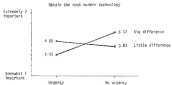


Figure 12.4 The two-way interaction effect of urgency and perceived differences between brands on the importance of obtaining the most modern technology ($F(1,128) = 10.58, p < 0.001$)

The only straightforward effect of the urgency treatment was that the subjects who imagined they would have to make a purchase in the next day or two were less inclined to want to enjoy the shopping for its own sake. The other effects of urgency were complicated by two or three-way interactions with locus of femininity and individual difference measures. Generally it appeared that urgency had a more dramatic effect on the experienced and presumably older shopper.

CHAPTER TWO
EFFECTS OF SCENARIO TREATMENTS ON SHOPPING AND SEARCH INTENTIONS

Introduction

The search behavior of consumers is a dynamic process, in that shopping and information acquisition intentions can change as information or advice is obtained. For example, a buyer may initially have intended to seek out a Consumer Reports article but after talking to a friend, seeing an advertisement or talking to a salesperson the consumer may decide not to bother. On the other hand, after first talking to a repulsive another buyer may stop at stores that she otherwise may never have considered. Each step a buyer takes is likely to lead to new considerations, new alternative actions and new intentions.

Such a model of shopping behavior makes sense of a consumer of necessarily buyer's initial intentions to consult various information sources and stop at various stores. These are responses, of at least, general dispositions which will very likely change in the light of evolving, search and shopping circumstances. The model also, however, suggests that the first step taken, that is first source consulted, may be an important determinant of the shopping process and purchase outcome. If indeed, the first step launches the buyer out onto a distinctive path that leads to certain information sources and bypasses others then the first step in the shopping process is of considerable relevance to the marketing of appliances. Changing the consumer's first step in the shopping process may become an important priority if it becomes the

likelihood the buyer will be exposed to desired sources of information or shop at a particular type of store.

The findings from the survey reported in Chapter Six suggest that there is, indeed, a relationship (but not necessarily a cause and effect relationship) between the source first consulted and the use of other information sources.

The purpose of this phase of the research was, however, not to establish the impact of the first step on the shopping process but rather to examine whether the shopping situation scenario manipulations had any impact on initial behavior intentions. The effect of the situation scenario treatments on a number of shopping and information search measures was also studied. Despite the above criticism of such measures it was still considered worthwhile to establish the effect of the scenarios on the subject's disposition towards such behaviors. The responses capture the subject's intentions at the problem recognition stage of the purchase process, intentions which are very likely to change as the buyer proceeds down the purchase path into new situations and circumstances.

Method

The measurement of the first shopping step was operationalized by developing a list of thirty first steps and asking subjects to indicate the likelihood that they would take each of the actions as a first step in the situation confronting them. The list of actions was generated mainly from the focus group discussions. The findings of the open-ended questions presented in Chapter Eleven confirmed that all of the important actions were included except for consulting a husband. This action was intentionally excluded from the list as the interest was in examining

first steps taken outside the household and it was feared that consulting a spouse would be such a frequent first step that it would dominate responses, making interpretation difficult. As it happened, this was an unwarranted concern.

The participants were asked to express a likelihood that each possible action listed would be the first step taken. The scales ranged from extremely unlikely (1) through to extremely likely (11). The midpoint on the scale (6) was labelled 50/50 chance (see Appendix B for question instructions and scales). If the subject understood and used the probability scales correctly then the scoring of one of the possible steps as extremely likely should have resulted in none of the other steps also receiving an extremely likely rating, or even a rating of 6 or above. Similarly the scoring of two of the possible options as 50/50 chances (6) on the scale should have resulted in the other options being scored extremely unlikely (1) on the scale). The subjects very frequently violated these scale constraints which suggests they had difficulty allocating probabilities across mutually exclusive options. To remedy this problem it was decided to normalize each subject's scores by converting them to a probability that summed to 1.0. This was done by dividing each score by the sum of the eight scores. It enabled comparison between subjects of the relative likelihood of a particular first step.

The other shopping and information search intention measures used the same likelihood scale as above but were not standardized as they were not mutually exclusive events whose probabilities of occurrence were required to sum to one. The subjects were presented with a shopping or information search activity and were asked to indicate how likely it was that they would undertake such an activity.

Results

The behavior intention measures were treated as three response vectors. The first vector was the set of eight initial intention measures. The second vector was a set of four shopping intention measures and the third vector was a set of 10 information search intentions. In the first stage of the analysis the impact of the two treatments (agency and locale familiarity) and the individual difference measures on the response vectors were each separately examined using one-way multivariate analysis of variance (ANOVA, Dixon and Brown 1977). For each analysis the subjects were divided into two groups, by either treatment or individual difference criteria. The differences in the group means were tested for significance at the multivariate and univariate level.

The effects of agency treatment, locale familiarity treatment and individual difference blocking factors were also tested using multivariate analysis of variance (ANOVA, Coover 1971) of several 2x2x1 factorial designs. Such model fitting enabled the examination of whether the response vectors were sensitive to interactions between the two treatments and between the treatments and the different groups of subjects (e.g. low experience/high experience, college educated/non-college educated).

The analysis of the initial behavior intentions was somewhat complicated by the transformation which made the eight measures linearly dependent. This was handled by removing one of the eight measures from the multivariate analysis and reducing the degrees of freedom by one (see Harris 1975, p. 76).

Experimental Hypotheses

The first two hypotheses are based on the expectation that when a clothes washer has to be replaced quickly, shoppers will go straight to a retail store rather than consult information sources which are difficult to obtain:

- H₁ In the urgent purchase circumstances, intentions to make the first stop one of the following will be increased:
 - a) consulting the Yellow Pages
 - b) visiting a local specialty appliance store
 - c) visiting a local Sears Store.
- H₂ In the urgent purchase circumstances the intention to make the first stop one of looking up a Consumer Reports article will be reduced.

The next two hypotheses assume that the first step in an unfamiliar locale is to identify or stop at a trustworthy retail store that will give the best value for money:

- H₃ In the unfamiliar locale situation, intentions to make the first stop one of the following will increase:
 - a) consulting the Yellow Pages
 - b) visiting a friend or relative
 - c) visiting the local Sears Store.
- H₄ In the unfamiliar locale situation, the intention to visit a local specialty appliance store as a first stop will decrease.

The following hypotheses are based on some of the findings reported in Chapter Three. In particular, Clayton, Fry and Harris (1990) found that when the purchase was made in urgent circumstances the incidence of consulting only one information source and visiting only one store was significantly higher. Bowen and Stealin (1973) did not find that the variety of sources consulted was conditional on the urgency of the purchase but did report some evidence that advertising was more likely to be used in the absence of time-pressure. Ash et al. (1986) observed that when a store was purchased, for a hurry, it was more likely obtained from a department store than a specialty store. Based on

Following hypotheses:

- H_0 In the urgency circumstances the expectations of the following behavior will be higher:
- a) considering only one brand
 - b) shopping at Sears.
- $H_{0'}$ In the urgency circumstances the expectations of the following behavior will be lower:
- a) shopping at several stores
 - b) shopping at a specialty store
- $H_{0''}$ In the urgency circumstances the expectations of the following behavior will be lower:
- a) consulting a newspaper for sales advertisements
 - b) looking up a Consumer Reports article
 - c) consulting brochures
 - d) consulting a catalog
 - e) consulting labels
 - f) seeking advice from personal sources

In his survey of long distance residential stores Bell (1971) found that word personal information was used by these shoppers and newspapers were more frequently consulted. As discussed in Chapter Four there are contradictory predictions as to whether a residential area acts as unfamiliar locale will influence shopping activity. It seems that a national chain such as Sears is more likely to be shopped. These findings and assumptions led to the following hypotheses:

- H_0 In the unfamiliar locale situation there will be a higher:
- a) expectation that a Sears store will be visited.
- $H_{0'}$ In the unfamiliar locale situation the expectations of the following behavior will be higher:
- a) seeking personal advice about where to shop
 - b) studying a newspaper for sales ads.

Results

Initial Behavior Intentions

Although not stated as a formal hypothesis it was expected that for convenience reasons the most likely first intention would be the consulting of a newspaper for sales advertisements and that this likelihood would not be affected by situation. The overall mean likelihood of first

consulting a newspaper advertisement was 0.14. The equivalent probability for some of the other possible first steps were: talking to a relative or friend 0.15, looking up the Yellow Pages 0.14, looking up a Consumer Reports article 0.11, visiting a local specialty appliance store 0.14 and visiting the local Sears store 0.13. Clearly no single first-step intention dominated over all of the treatment conditions. An examination of the mean responses within each treatment condition also failed to reveal the dominance of any one of the possible actions.

The multivariate analysis of variance did not produce any significant interaction effects on the vector of initial intentions. At the univariate level the only significant interaction effect ($F(1,125) = 3.80$, $p < 0.05$) was that subjects in the urgency-familiar situation (the scenario involving a refrigerator) indicated they would be more likely to first consult the refrigerator. This effect was to be expected. The remainder of this section discusses the results of the one-way analyses of variance.

The urgency treatment had no impact on the initial behavior intentions (see table 13-7). The only noticeable difference was the increased likelihood of initially consulting the Yellow Pages in the urgency condition. Otherwise there was no evidence to support H_1 or H_2 .

The effect of locale familiarity on the vector of initial behavior intentions was significant (see table 13-8). An unfamiliar locale increased the likelihood of first consulting the Yellow Pages (H_{1B}) and decreased the likelihood of talking to a repairman. It did not, however, increase the likelihood of talking to a friend or relative (H_{2B}) or affect the likelihood of going directly to the local Sears Store (H_{3A}) or a local specialty appliance store (H_{3B}).

Table 12.1

The effect of urgency on initial behavior intentions

Event stage	Average likelihood of behavior	
	No urgency (n = 76)	Urgency (n = 87)
Search newspaper ads	0.140	0.148
Look up a catalog	0.095	0.089
Look up the Yellow Pages	0.129	0.131
Look up Consumer Reports	0.158	0.148
Tell to a friend or relative	0.140	0.130
Tell to a neighbor	0.080	0.084
Visit the local Sears store	0.100	0.105
Visit the local specialty store	0.148	0.135
	<u>1.00</u>	<u>1.00</u>

Reliability: $\alpha^2 = 0.928$, indicating $\gamma^2 = 0.0021$

$F(3,124) = 0.7638$, $p = 0.686$

Table 13.2

The effect of locale familiarity on initial behavior intentions

First Step	Average Likelihood of behavior	
	Unfamiliar (n = 31)	Familiar (n = 33)
Search newspaper ads	0.148	0.138
Look up a catalog	0.879	0.045
Look up the Yellow Pages*	0.757	0.118
Look up Consumer Reports	0.145	0.154
Talk to a friend or relative	0.137	0.145
Talk to a neighbor*	0.089	0.178
Visit the local Sears store	0.128	0.135
Visit the local specialty store	0.182	0.135
	<u>1.00</u>	<u>1.00</u>

Significance: $\chi^2 = 8.8110$, retaining $\chi^2 = 21.3627$

$P(3,124) = 0.0285$, $p < 0.0005$

* Univariate test, $p < 0.05$

The effect of purchase experience (under two previous purchases/ ten or more previous purchases) on initial behavior intention was to decrease the likelihood of first consulting Consumer Reports, and to increase the likelihood of going straight to the local Sears store (see Table 13.3). This suggests that the experienced more often have already decided which is the best brand before starting the shopping process and in making their decision are more favorably disposed towards Sears than the less experienced. The college educated, as a group, are more likely to first look up Consumer Reports but are less likely to initially look up the Yellow Pages (see Table 13.4).

Shopping Intentions

The only interaction effect on any of the shopping intention measures is illustrated in Figure 13.1. It was expected that the agency manipulation would reduce the intention to visit several stores (H_{1a}). While such a main effect was observed (see Table 13.5) it was moderated by the subjects' education level and the familiarity of the locale. In a familiar environment the college educated subjects' reaction to the agency, created by product failure, was to lower their intention of shopping around. However, the non-college educated subjects' reaction to this circumstance was to raise their intention to shop around. In the unfamiliar locale a reverse effect was observed. The non-college educated significantly reduced their intention to shop around while the college educated only marginally reduced their intention.

The result suggests that a different approach is adopted by the consumer adapted to cope with urgent purchase requirements in a familiar locale and an unfamiliar locale. In a familiar shopping locale, the lower educated decrease their intention to visit several stores, perhaps

Table 11.3

The effect of purchase experience on initial behavior intentions

First step	Average likelihood of behavior	
	Low experience (n = 81)	High experience (n = 68)
Search newspaper ads	0.134	0.151
Look up a retailer	0.075	0.079
Look up the Yellow Pages	0.146	0.132
Look up Consumer Reports ^a	0.137	0.189
Talk to a friend or relative	0.129	0.142
Talk to a neighbor	0.097	0.082
Visit the local Sears store ^a	0.188	0.175
Visit the local specialty store	0.137	0.148
	<u>1.00</u>	<u>1.00</u>

Baseline: $R^2 = 0.0406$, controlling $R^2 = 0.0225$

F(7,194) = 2.4702, p = 0.013

^aInterstate test, p < 0.05

Table 13.4

The effect of college education on initial behavior intentions

First Step	Average likelihood of behavior	
	No college (n = 48)	College (n = 55)
Search newspaper ads	0.141	0.140
Look up a catalog	0.824	0.871
Look up the Yellow Pages ^a	0.354	0.330
Look up Consumer Reports ^a	0.334	0.344
Talk to a friend or relative	0.138	0.136
Talk to a neighbor	0.060	0.064
Visit the local Sears store	0.148	0.127
Visit a specialty store	0.136	0.135
	<u>1.00</u>	<u>1.00</u>

Mantel-Haenszel $\chi^2 = 0.403$, likelihood $\chi^2 = 14.3045$ $\chi^2(1,345) = 2.8734$, $p = 0.093$ ^a McNemar test, $p < 0.05$.

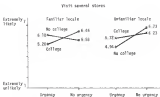


Figure 12.3: The three-way interaction effect of urgency, familiarity and education on the intention to visit animal stores [$F(1,193) = 10.36$, $p = 0.011$].

Table 12.5

The effect of urgency on shopping intentions

Shopping Activity	Average Total/Range of Intentions	
	No urgency (n = 74)	Urgency (n = 19)
Consider only one brand	2.82	2.38
Visit several stores*	3.27	3.87
Visit a Sears store*	3.75	4.78
Visit a local specialty store	3.78	3.88

5 = extremely unlikely
 4 = 50/50 chance
 2 = extremely likely

Multivariate: $R^2 = 0.3877$, Total/Reg $R^2 = 0.0086$
 $F(4,127) = 2.3488$, $p = 0.053$
 *Univariate test, $p = 0.03$

because it is relatively easy to identify and evaluate the offerings of the familiar stores. When the locally and stores are unfamiliar their intentions to shop at several stores drops. One explanation for this is that each store's reputation has to be assessed and under pressure the lower educated regard this as quite a demanding task. The college educated shoppers' intentions to visit several stores drop in both urgency circumstances, although the effect is more marked in the familiar locale situation where the purchase is precipitated by product failure and the stores are familiar.

The other effect of urgency was to decrease the likelihood of shopping at Sears (see Table 13.12). Contrary to H_{2a} and H_{2b} , in the urgency circumstances subjects expressed a greater likelihood of visiting a local specialty store than visiting Sears. When subjects could take their time the average likelihood intentions of visiting Sears and visiting a specialty store were almost equal. Urgency also failed to increase the likelihood of considering only one brand (H_{3a}).

Locale familiarity had no effect on shopping intentions (see Table 13.4), however, two of the individual difference measures significantly influenced shopping intentions. Experience decreased the likelihood of considering only one brand and reduced the likelihood of consulting several stores (see Table 13.7). Education did not have a simple main effect on shopping intentions but the effect of the subject's perceived difference between the brands was significant and interesting (see Table 13.4). The shoppers who perceived that a big difference existed between the brands were less likely to shop at several stores and in particular Sears. On the other hand the shoppers who perceived that little difference existed between the brands were more likely to visit several stores.

Table 13.4

The effect of locale familiarity on shopping intentions

Shopping activities	Average likelihood of behavior	
	Unfamiliarity (n = 71)	Familiarity (n = 72)
Consider only one brand	2.79	2.34
Visit several stores	3.88	5.82
Visit a Sears store	5.81	4.97
Visit a local specialty store	5.78	5.11

1 = extremely unlikely

4 = 50/50 chance

7 = extremely likely

Multivariate $R^2 = 0.0028$, Rotating $T^2 = 0.1848$ F(1,138) = 6.9853, $p = 0.008$

Table 13.2

The effect of purchase experience on shopping intentions

Shopping activity	Average likelihood of behaviour	
	Low experience (n = 80)	High experience (n = 60)
Consider only one brand ^a	3.18	2.48
Visit several stores ^a	5.42	6.16
Visit a Sears store	5.18	4.88
Visit a local specialty store ^a	4.88	5.42

1 = extremely unlikely
4 = 50/50 chance
7 = extremely likely

MANCOVA $F^2 = 0.0773$, Hotelling $T^2 = 7.6577$
 $F(3,134) = 3.9826$, $p = 0.008$
^a univariate test, $p = 0.05$

Table 13.8

The effect of perceived difference between brands on shopping intentions

Shopping activity	Average likelihood of behaviour	
	Little difference (n = 102)	Big difference (n = 81)
Consider only one brand	2.56	3.32
Visit several stores*	6.64	6.39
Visit a large store*	5.19	4.28
Visit a local specialty store	5.18	4.28

1 = extremely unlikely

4 = 50/50 chance

7 = extremely likely

Regressions $R^2 = 0.4087$, Multiling $T^2 = 11.8344$ $F(1,188) = 2.4857$, $p = 0.009$ * univariate test, $p = 0.05$

and visit Sears in particular. The result suggests that more comparison shopping will be done by those buyers perceiving little overall difference exists between the brands. Presumably the search is for the best price. The shoppers who perceive that big differences exist between the brands shop more selectively and prefer to shop at stores that offer a range of different brands.

Information Search Intentions

There were no significant treatment interaction effects on the vector of intentions to consult various sources. This vector of intentions was also not significantly influenced by the urgency manipulation although table 13.8 reveals that all the information sources were marginally more likely to be consulted in circumstances where a clothes washer could be purchased at leisure. Quite large standard deviations (ranging from 1.8 to 2.5) explain why the differences between the two groups' means were not significant. Consequently H_3 was not supported.

The effect of locale familiarity on the search intentions was highly statistically significant and also much more selective (see Table 13.18). The subjects in an unfamiliar locale indicated a greater likelihood of looking up an article and asking a relative or friend about where to shop (H_{3a}). They are, on the other hand, less likely to ask a repairman's advice. These subjects keeping themselves in an unfamiliar locale expressed a marginally but not significantly higher intention of studying newspaper advertisements (H_{3b}).

Experience did not have an overall effect on the information search intention vector but at the univariate level the less experienced were more likely to look up Consumer Reports and ask a relative or friend about the different brands (see Table 13.17). Satisfaction's effect was

Table 13.8

The effect of urgency on information search intentions

Information search activity	Average likelihood of intention	
	No urgency (n = 69)	Urgency (n = 19)
Search newspaper ads	5.36	5.16
Look up an article	3.80	3.58
Look up Consumer Reports	5.36	5.04
Study a catalog	5.68	5.42
Study manufacturers' brochures	5.06	4.74
Read label details	5.40	5.82
Pay attention to salespeople	5.60	5.88
Seek repairman's advice	3.80	3.59
Ask relative/friend about stores	4.40	4.16
Ask relative/friend about brands	5.12	4.82

1 = extremely unlikely

4 = 50/50 chance

7 = extremely likely

Kendall's $\tau^2 = 0.2871$, Relating $\tau^2 = 18.3190$ $F(18,18) = 0.9871$, $p = 0.482$

Table 13.16

The effect of label familiarity on information search intentions

Information search activity	Average likelihood of behavior	
	Familiar (n = 71)	Unfamiliar (n = 72)
Search newspaper ads	5.51	5.35
Look up an article ^a	5.59	5.24
Look up Consumer Reports	5.43	5.42
Study a catalog	5.34	5.31
Study manufacturers' brochures	5.24	4.75
Read label details	5.45	5.15
Pay attention to salespeople	5.45	5.08
Ask repairman's advice ^a	5.33	5.05
Ask relative/friend about stores ^a	4.75	5.06
Ask relative/friend about brands	4.55	5.17

1 = extremely unlikely

4 = 50/50 chance

7 = extremely likely

Mann-Whitney $U^2 = 1.411$, resulting $r^2 = 40.16\%$ $F(10,137) = 3.7889$, $p = 0.008$ ^a Kolmogorov-Smirnov test, $p < 0.05$

Table 15.71

The effect of purchase experience on information search intentions

Information search activity	Average likelihood of behavior	
	Low experience (n = 80)	High experience (n = 90)
Search newspaper ads	5.45	6.39
Look up an article	3.44	3.83
Look up Consumer Reports ^a	5.89	6.72
Study a catalog	3.33	3.77
Study manufacturers' brochures	4.83	4.89
Read label details	5.25	6.13
Pay attention to salespeople	6.17	6.48
Seek neighbor's advice	3.32	3.33
Ask relative/friend about stores	4.50	4.85
Ask relative/friend about brands ^a	5.16	4.52

1 = extremely unlikely

4 = 50/50 chance

7 = extremely likely

Reputation: $r^2 = 0.2809$, Retailing: $r^2 = 0.1264$ $F(18,12) = 0.9481$, $p = 0.4937$ ^a univariate test, $p < 0.05$

examined solely an increasing likelihood of consulting Consumer Reports (see Table 13.12). The only other individual difference effect on the entire search vector was that observed between the group of 29 subjects who claimed to be subscribers to Consumer Reports and the 104 who did not. Undoubtedly the Consumer Reports subscribers indicated a far higher likelihood that they would consult the magazine (see Table 13.12). What was unexpected was that they also indicated significantly greater dispositions to look up other articles about clothes makers, study catalog and manufacturers' brochures, seek a representative's advice and ask other relatives or friends about brands. This select group distinguishes itself by its general inclination to obtain information. Interestingly, this did not carry over to significantly greater intentions to shop at several stores and significantly less intentions to consider only one brand.

Summary

This chapter reported on the impact of situation variables on the subjects' shopping and information search dispositions. The effects were generally straightforward in the sense that there were very few significant interactions between the experimental factors. Some of the more interesting results were:

- No single first-stop emerged as most likely in any of the situations.
- Local familiarity had its biggest impact on the subject's dispositions to consult a representative, Consumer Report and a friend or relative.
- The more experienced were more predisposed to go straight to a Sears store.
- The effect of urgency on shopping intentions was dependent on the subject's education and local familiarity.
- The experienced are less likely to visit several stores, less likely to visit a specialty store and more likely to consider only one brand.

Table 13.12

The effect of college education on information search intentions

Information search activity	Average likelihood of behavior	
	No college (n = 48)	College (n = 96)
Search newspaper ads	5.54	5.25
Look up an article	3.42	3.83
Look up Consumer Reports ^a	5.67	4.33
Study a catalog	5.33	5.75
Study manufacturers' brochures	4.36	4.56
Read label details	5.34	5.39
Pay attention to salespeople	5.15	5.54
Ask repairman's advice	3.28	3.37
Ask relative/friend about stores	4.37	4.47
Ask relative/friend about brands	4.82	5.00

1 = extremely unlikely

4 = 50/50 chance

7 = extremely likely

Reliability: $R^2 = 0.7421$, Retaining: $r^2 = 23.6437$ $F(10,150) = 2.8734$, $p = 0.002$ ^a university test, $p = 0.05$

Table 10.10

the effect of subscribing to consumer reports
on information search intentions

Information search activity	Average likelihood of behavior	
	Non subscriber (n = 714)	Subscriber (n = 27)
Search newspaper ads	5.36	6.64
Look up an article ^a	5.54	6.88
Look up Consumer Reports ^a	6.89	6.98
Study a catalog ^a	5.40	5.40
Study manufacturers' brochures	4.73	5.47
Read label details	5.23	5.57
Pay attention to salespeople	5.15	5.30
Seek repairman's advice ^a	5.18	6.19
Ask relative/friend about stores	4.29	4.48
Ask relative/friend about brands ^a	4.79	5.64

1 = extremely unlikely

6 = 50/50 chance

7 = extremely likely

Reliability: $\alpha^2 = 0.260$, test-retest $r^2 = 0.670$

$F(10,100) = 2.244$, $p = 0.008$

Wilcoxon test, $p < 0.05$

- Those who perceive big differences exist between brands are less likely to visit several stores and less likely to shop at Sears than those who perceive little differences exist between brands, and
- Consumer Reports subscribers are more disposed to consult several other information sources besides Consumer Reports.

A number of the hypotheses were supported, but most were not. In particular while urgency affected shopping intentions it did not reduce the subject's estimated likelihoods of consulting various information sources. On the other hand, brand familiarity, although a weak manipulation, did influence the likelihood that some of the information sources would be consulted. It did not influence any shopping intentions.

CHAPTER FOURTEEN
THE EFFECTS OF THE SCHEDULETREATMENTS ON
PREFERENCES FOR TYPE OF INFORMATION SOURCE

Introduction

The behavior selection measures did not provide a direct measure of the subjects' preferences for various sources of information and advice. To address this the subjects' comparative attitudes toward seven types of information sources were obtained from a set of 21 pairwise preference questions (see Appendix B). The seven types of information sources were chosen either because they had been noted as important sources of information in past survey studies or because of their unique characteristics (e.g., expertise requirement). Friends and relatives were combined into one type of information source because of their assumed similarity as sources of advice and information about purchasing a clothes washer. Teachers and labels were combined for the same reason.

The set of measures was designed so as to be amenable to metric, multidimensional preference scaling analysis (Kendall 1974). This technique not only captures information about the stimulus objects but also information about respondent differences, in the same metric space. In this research the respondent differences were not just due to factors such as experience and education. The potential was there for the four situation scenario treatments to systematically influence the preferences and the spatial configurations. Lattin (1984) suggests that multidimensional preference scaling is probably more useful as an exploratory or diagnostic tool. However, he acknowledges the technique can play a role in more advanced stages of research to address questions

such as whether scale structure is altered by social, political or economic conditions. The question specifically addressed in this chapter was whether purchase urgency, locale familiarity and participant individual difference measures separately or together influenced preference scale structure.

Method

The preference measure analysis involved three distinct stages. The 21 pairwise preferences were first treated as a vector and multivariate analysis of variance (MANOVA; Green 1993) was used to examine the direct effects of the two treatments and two individual difference blocking factors, past experience and education.

The following utility model was then fitted to the preference responses using an orthogonal analysis of variance computer program:

$$P_{ijk} = \mu_{ij} + \alpha_{ik} + \beta_{jk} + \epsilon_{ijk}$$

where:

P_{ijk} = the average preference for information source j over information source i in the treatment cell or blocking level k

μ_{ij} = the average utility of information source j in treatment cell or blocking level k

α_{ik} = the average utility of information source i in treatment cell or blocking level k

β_{jk} = the interaction for the stimulus pair (i, j) across all treatment or blocking levels

ϵ_{ijk} = random error

In essence, this stage of the analysis transformed the preferences into information source utility scales for each group of respondents. The orthogonal analysis of variance framework also enabled the measurement of the extent to which these linear utility scales captured the information in the preference measures.

The third step of the analysis involved the fitting of two types of structural models to the utility measures, a General Scalar Product (GSP) model and a General Power Distance (GPD) or weighting model. This exercise can be also viewed as the fitting of secondary submodels to the original mean preference scores of each treatment cell or blocking group. Such a perspective is useful when considering the relative goodness-of-fit of the second-stage submodel compared to the first-stage linear utility model.

The GSP submodel positioned the seven types of information sources as points in a two dimensional space and the treatment groups of subjects as directional vectors in this space. These vectors represent the individual weighting the subjects in each condition attach to the two dimensions of the metric space. Distance measured in the direction of a group's vector measures the average utility of the different information source types for that group.

The GPD submodel placed both the stimuli (types of information sources) and respondents (treatment groups) as points in a two dimensional space. Euclidean distance between a treatment group and an information source indicated disutility. That is, the closer the two points in the space the greater the judged utility of the information type for that treatment group. The technical details, such as the side conditions and the least squares method of fitting the parameters for these two models are presented in Chapter Five and Chapter Seven of *Finalist* (1976).

Subsequent Analysis of Variance Results

In the two-way multivariate analysis of variance using urgency and locale familiarity as factors, the interaction approached significance ($p < 0.055$)— however, only one of the 21 univariate interaction tests

was significant. Subjects generally performed a regression over a catalog as a source of information but this preference was strongest in the urgency-familiar locale treatment and weakest in the urgency-unfamiliar locale treatment ($F(1,128) = 8.84$, $p < 0.002$).

The urgency scenario treatment did not have a main effect on the preference vector but the locale familiarity manipulation did have a significant effect ($p = 0.007$). The average preference for brochures and labels over newspaper was increased in the unfamiliar locale condition ($F(1,128) = 4.48$, $p < 0.000$). The preference for newspaper ads ($F(1,128) = 4.48$, $p < 0.007$), a regression ($F(1,128) = 8.47$, $p < 0.01$) and a salesperson ($F(1,128) = 6.80$, $p < 0.04$) over a catalog significantly decreased in the unfamiliar locale condition.

The pattern of these and other results that approached significance suggest that the utility of newspaper advertising and the utility of a regression's, salesperson's and friend's or relative's advice and information depends on the subject's confidence or trust in these sources. In an unfamiliar locale these local sources of information are more of an unknown quantity than when the purchase and search is undertaken in a familiar locale. Consequently these sources are, relatively speaking, less attractive in an unfamiliar locale compared to brochures and labels, catalogs and Consumer Reports which do not vary from location to location. It was anticipated that the relative preference for a friend or relative and newspaper ads over the other sources would increase in the unfamiliar locale treatment condition (see H_{22} and Anderson 1980). If anything, the reverse occurred.

The utility of experience (less than two previous purchases of a new sweater/coat or more previous purchases) as a blocking factor did not have any impact on the vector of preferences, either as a main effect or

interacting with the manipulations... However, the addition of education (see college/college) into the design resulted in a three-way urgency/familiarity/education effect on the vector of 21 pairwise preferences ($p < 0.004$). At the subscale level only one of the measures was significant but it was an inverted one, the pairwise preference of Consumer Reports over a salesperson ($F(1,124) = 4.30, p = 0.002$).

In a familiar locale, the impact of urgency on the preference for Consumer Reports over a salesperson depended on the homemaker's education (see Figure 14.1). Urgency in a familiar locale (the product failure treatment) increased the lower educated women's preference for consulting Consumer Reports over a salesperson. The same treatment decreased the higher educated women's preference for consulting Consumer Reports over a salesperson. Perhaps the lower educated are more suspicious that a salesperson will exploit their circumstances, although it is not clear why this should be specific to the familiar locale. The effect of product failure on the higher educated group is more readily understandable. It appears they have considered the greater time and effort involved in consulting Consumer Reports and have also recognized that they would have greater confidence in the salespeople employed in familiar as opposed to unfamiliar locales.

The main effect of education on the pairwise preference vector was marginally significant ($p = 0.084$). Consumer Reports was significantly more preferred by the better educated over brochures and labels ($F(1,124) = 12.15, p = 0.001$), writings ($F(1,124) = 9.49, p = 0.003$), newspaper ads ($F(1,124) = 8.08, p = 0.005$), repairman ($F(1,124) = 71.82, p < 0.001$) and salespeople ($F(1,124) = 7.26, p < 0.007$).

Item order had a significant main effect on the vector of pairwise preferences ($p < 0.004$). The main preferences of four of the 21 pairwise

Preference for
Consumer Reports
over self-expertise

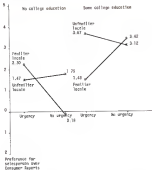


Figure 14.11 The effect of urgency, locale familiarity and education on preference for Consumer Reports over self-expertise

preferences were significantly influenced by order at the individual level. An examination of these measures' positions in the two random orderings did not suggest any reason for the effect. For example, age of the four was the leading pair in either ordering. Fortunately, order did not interact significantly with the treatment conditions and particularly the locale familiarity treatment. If it had it would have severely undermined the generalisability of any treatment main or interaction effects.

The Linear Utility Model Fitting

Sight distinct linear utility models were fitted to different sets of the pairwise preference measures. The responses were grouped by agency treatment, locale familiarity treatment, experience, education and then order treatment. In addition the responses were divided into four groups by agency-familiarity and eight groups by agency-familiarity-experience and agency-familiarity-education. These different models were fitted even though the multivariate analysis suggested that the information source utility structures would only vary by locale familiarity, education, then order, agency-familiarity and agency-familiarity-education.

The linear utility models fitted to the splits by agency, locale familiarity, experience, education and then order are presented in Figures 16.1 and 16.2. The location of each information source on the utility scale is shown for the different treatment groups. As the same scale scores on each scale are constrained to sum to zero, only the relative positions and distances between the information sources on the scale can be compared between the treatment groups. The number of respondents in the group and mean confidence score of the subjects in the group to their judgments (1 = not at all confident, 5 = very confident/ sure) are given for each scale. The percent of the between-

group average pairwise preference variability explained by each model (the two jointly scaled) is also provided.

Overall, the linear utility models fitted the preferences very well. About 90% of the variability in the preferences was explained by the utility scales, the remainder being explained by unobservability and random error. By comparison factorial (HDE) provided a number of linear utility models that explained at least 80% of the variability and at worst 90% of the variability of their preference measures. All of his models were deemed acceptable. The subjects' own confidence in their judgments were also high, close to four on the 1-5 scale. There was no significant difference in the average confidence scores between any of the groups. The average preference ratings of the groups also exhibited very few violations of strong transitivity suggesting that, at least at the group level, the subjects had clear and consistent perceptions of the relative utility of the information sources.

The most striking feature of all of the utility scales is the superior utility of Consumer Reports. This information source is very clearly in a class of its own, as measured by consumer preferences. At the other end of the utility scale is the catalog followed by the newspaper advertisement. The remaining four types of information source tend to be bunched together, led by the experimenter.

The lack of a general impact of the urgency manipulation on the respondents' utility structures is obvious. On the other hand the two familiarity treatment scales are quite distinctive. In a new locale catalogs, brochures and labels and Consumer Reports are all rated higher on the utility scale compared with their positions on the familiar locale scale. This is consistent with the conclusion drawn from the preference



Agency (SP), mean confidence 3.88



No agency (FR), mean confidence 3.85

The above scales explained 86.25 of the variability in the two groups' preferences



Familiar locale (FR), mean confidence 3.88



Unfamiliar locale (FR), mean confidence 3.88

The above scales explained 95.45 of the variability in the two groups' preferences



Low experience (CR), mean confidence 3.85



High experience (CR), mean confidence 3.75

The above scales explained 86.25 of the variability in the two groups' preferences

Figure 14.2—The scenario treatment and shopping experience Thayer utility models

CS = catalog

RL = brochures &
letters

SA = newspaper ad

FR = friend or
relative

SP = salesperson

FR = respondent

CR = Consumer Reports

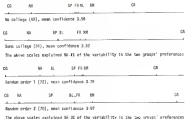


Figure 14.3: The education and random order Thurst utility models

scaling results that these are not local information sources which are treated with caution. Is an identifier local?

The only noteworthy difference between the low and high experience utility scales was the change in ranking and position of the subexperience *who was rated more useful by the more experienced respondent*. As expected from the pairwise preference results the major effect of education was on the utility scale scores of *Consumer Reports* which was, relatively speaking, much higher on the college educated scale.

Fitting the GSP Submodel to the Utilities

General Linear Product submodels were fitted to firstly the four utility scales of the agency-familiarity-treatment groups, secondly the eight utility scales of the agency-familiarity-experience groups and finally the utility scales of the eight agency-familiarity-education groups. The general form of the GSP submodel that was fitted to the scale values was:

$$U_{ijp} = \sum_{j=1}^J \alpha_{ijp} \beta_{j,p} = \alpha_{ijp}$$

where

U_{ijp} = treatment group i 's utility scale score for information type j ,

α_{ijp} = the weighting coefficient treatment group i attached to dimension j , and

$\beta_{j,p}$ = the coefficient value of information source j on dimension p .

The fitted utility scales $\{\alpha_{ijp}\}$ of the agency-familiarity-treatment are presented in Table 16.1. These scale weights captured 86.3% of the variability in the average pairwise preference scores of each of the four treatment groups. The GSP model was fitted to these values

Table 18.1

The utility scales of the agency-familiarity scenario treatments

Treatment	Information sources							DDP fitted u_i^j s	
	CR	SA	BL	SP	PR	BR	CR	Axis 1	Axis 2
Agency-familiar	-2.74	-8.71	-6.45	0.77	0.34	0.68	2.12	-3.44	0.62
No agency-familiar	-0.13	-1.07	-0.22	-0.87	0.31	0.63	2.10	-3.04	0.27
Agency-unfamiliar	-0.84	-1.27	0.18	-0.44	-0.15	-0.13	2.62	-2.88	-1.27
No agency-unfamiliar	-1.48	-1.68	-0.83	-3.45	0.37	0.24	2.35	-3.00	-0.78
DDP fitted u_i^j s									
Axis 1	0.52	0.33	0.05	0.08	-0.26	-0.74	-0.77		
Axis 2	-0.68	0.30	-0.37	0.31	0.78	0.47	-0.76		

The dimensionality of the ICF model was chosen, *a posteriori*, based on the magnitude of the eigenvalues that were used as principal components to derive the parameters. The values of the non-zero eigenvalues were 34.382, 3.188, 0.000 and 0.000. The first eigenvalue is so dominant that it suggests a one-dimensional model would be adequate. However, if a one-dimensional solution was adopted the error sum of squares associated with this submodel would be over two and a half times larger than the error sum of squares that resulted from fitting the initial, first-stage linear utility model to the preferences. This is an unacceptable addition of incremental error and therefore the second dimension was retained (see Spector 1976, p. 81). This resulted in the submodel having an error sum of squares that was only 10% of the first-stage linear utility model's error sum of squares.

The fitted a and b values are presented in Table 14(1). To illustrate the model's fit, the average utility of a catalog as a source of information in the urgency-familiar locale treatment was, from Table 14.1, -2.14. The ICF submodel fitted value was -2.12. This estimate was derived by summing catalog's scores on the two dimensions (8.52 and -9.50) weighted by the urgency-familiarity locale scoring of the two dimensions (-0.15 and 0.82).

In Figure 14.4 which visually portrays the model, Consumer Reports can be seen to be positioned distinctly on its own and clearly some distance from the other types of information sources, whereas situation reader is used as a dimension. The three non-local sources of information, Consumer Reports, brochures and labels and catalogs have a similar score on the second axis or dimension which perhaps could be labelled personal advice - impersonal facts, were it not for the position of newspaper ads...

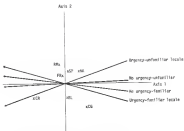


Figure 14.1: The General Scalar Product subspace fitted to the urgency-familiarity treatment utilities

The three sources are quite separate from the other four that are clustered together. The major differentiating horizontal dimension or axis, might be tentatively labelled as independent-commercial dimension.

The direction of the two unfamiliar local treatment vectors compared to the direction of the two familiar local vectors is such that the three org.-local information sources score much higher on the unfamiliar local utility vectors than on the familiar local utility vectors. This is consistent with the pairwise preference and utility scale results. Urgency appears to accentuate the effect of local familiarity as the two urgency treatment vectors are at the extremes of the vector plot.

A two dimensional BIP model was also fitted to the urgency-familiarity-experience scales for the same stimuli as presented above. Although one dimension dominated, inclusion of the second dimension unacceptably reduced the goodness of the fit of the second-stage submodel. This model is illustrated in Figure 18.8. The additional disaggregation by shopping experience hardly altered the spatial configuration of the information sources and produced a vector fan very similar to the shopper urgency-familiarity submodel. This is consistent with the results of the multivariate analysis of variance.

Finally, a two dimensional BIP model was fitted to the urgency-familiarity-education scales again because removing the second dimension unacceptably reduced the goodness of fit of the submodel. Figure 18.8 reveals that the configuration of the information sources is slightly changed. Brochures and labels have tended to join the major cluster of information sources leaving Consumer Reports and catalogs as the outliers. The fan of vectors is quite narrow, except for the two extreme vectors representing the relative weighting of the dimensions by the highly educated in the urgency-unfamiliar local cluster and the less

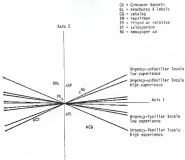


Figure 14-E: The General Social Product subsample fitted to the agency-familiarity-experience treatment utilities

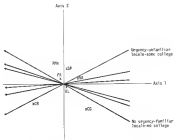


Figure 14.6: The General Scalar Product (GSP) model fitted to the virginity-test/parity-education treatment utilization

obtained in the no agency-familiar locus scenario. The first group rate Consumer Reports as much superior but hardly discriminate between the remaining six types of information sources. At the other extreme the lower educated in the no agency-familiar locus treatment generated a sector and information source projections onto the sector that were quite different. Consumer Reports was still most preferred but only marginally over a newspaper. This group was more discriminating in its rating of the other types of information sources with catalogs clearly judged to possess the least utility.

Fitting the BPO Submodel to the Utilities

Three Generalized Bivariate models were also fitted to the utility scales of the four agency-familiarity treatment groups, the eight agency-familiarity-superiority group scales and eight agency-familiarity-education group scales.

A two dimensional model was chosen, *a priori*, to enable visual comparison with the BP spatial models. However, the 2 parameter constant of the model was chosen *a posteriori*. The general form of the BPO model is given by

$$-u_{ij} = d_{ij}^2 = \frac{1}{2} \sum_{k=1}^2 x_k^2 + d_{ij}^2$$

where

u_{ij} = treatment group i 's utility scale score for information type j

$$d_{ij}^2 = \sum_{k=1}^2 (x_{ik} - x_{jk})^2$$

The x 's are the fitted spatial co-ordinates for the treatment groups and the y 's are the fitted spatial co-ordinates for the types of information sources. The d 's are distance between the treatment groups and the information source points, measured in a metric determined by λ if $\lambda = 1.00$

it is sufficient). Boichat (1990) suggests that the basis for choice of λ should be the ratio of the incremental error sum of squares added by adding the 2nd submodel, to the initial error sum of squares created by regressing the first-stage linear utility model. This ratio indicates the extent of additional error incurred under a specific power/distance model and was the basis used for choosing the dimensionality of the GSP submodel.

Various GSP submodels, with different λ , were first fitted to the four urgency-disability treatment scales. Their goodness of fit ratios were:

λ submodel	0.447	0.508	0.375	0.290
Ratio	0.137	0.158	0.101	0.078

All of the different models added very little incremental error and would be quite acceptable. A relevant comparison is the goodness of fit ratio of the two dimensional GSP submodels which was 0.100. While the model with the lowest ratio might usually be considered the optimum choice, in this case the smallest model ($\lambda = 0.50$) was chosen because its ratio was not appreciably larger than the smallest ratio and it produces a conventional distance-disability configuration. This model is illustrated in Figure 14.2. The Euclidean distance between the type of information source and the "ideal points" of the treatment groups in the space measures disability. The striking feature of Figure 14.2 is the close clustering of the ideal points of the four treatment groups. This suggests that the treatments had very little differential impact or that the GSP submodel was rather insensitive to any between-group differences. As with the GSP submodel the three non-local written sources of information are distinctly separated from the other four local information sources on the vertical dimension. The typewriter as a source is not grouped as close

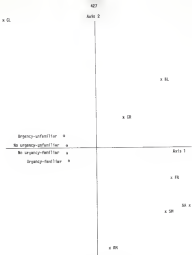


Figure 14.2: The General Powerd Distance subspace (2+0-0) fitted to the drug-by-dose-by-treatment cell means

to the other three local sources as he was in the GSP submodel and the category is even further removed in the new quadrant.

The four treatment groups are stretched along the second axis, the two unfamiliar locale ideal points on top and the two familiar locale points on the bottom. As with the GSP submodel the agency treatments are at the extremes. The interpretation of the model is also similar. Local information sources are slightly less attractive in an unfamiliar situation. This effect is understood by lack of experience.

Similar procedures were used to choose the λ to fit the GPD submodels to the agency-familiarity-experience scales and agency-familiarity-education group scales. In both cases the goodness of fit ratio for $\lambda = 0.8$ was the lowest being respectively 0.007 and 0.060. This compares with the ratio values for the equivalent GSP submodels of 0.106 and 0.407. Unfortunately while the submodels fitted quite well, they offered little new insight and in fact defied interpretation (see Figures 14.8 and 14.9).

Summary

The study of source preference was undertaken to obtain a better understanding of the relative attractiveness of the various types of information sources in the four scenario package situations. Previous studies have made little effort to establish shoppers' relative preferences for different information sources. The typical measure has been an after the fact ranking of the most important sources of information that were consulted by the recent buyer. The approach used in this research measured dispositions prior to shopping rather than attitudes possible formed during or after shopping. It also captured more information than a simple ranking exercise.

A three phase analysis was undertaken. The first involved multiple source analysis of the preferences. In the second phase a linear utility

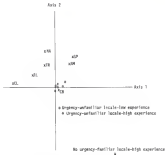


Figure 14-5: The Generalized Distance subscale (1 to 5) fitted to the urgency-distraction-experience treatment activities

model was fitted to the preferences. This generated utility scores for each source making it much easier to appreciate the relative usefulness of the information sources. In the third phase a second stage General Scalar Product and General Power Distance submodel was fitted to the utilities of the different treatment groups. These models somewhat helped to illustrate the impact of the scenario treatments on utility scale structure.

The multivariate analysis of variance revealed that the urgency manipulation did not have an impact on preferences. The locale familiarity manipulation did have an effect. In an unfamiliar shopping environment, local sources of information are less attractive compared to when the consumer imagined himself in a familiar shopping locale. The speculative explanation for this was that confidence and experience with a local source of information is an important determinant of its utility.

The actual of previous purchase experience did not influence preferences but higher education did positively influence preferences for Consumer Reports over other information sources. An interesting but difficult to explain education-situation interaction effect on the Consumer Reports-subspace private preference measure occurred.

The significant three order effect suggests that more consideration should be given to this measurement issue in future research and more use should be made of multiple random orderings of items in sets of questions, even if it does add another transformation stage to the analysis.

The linear utility model fitting was technically very successful, as measured by the goodness of fit of the models and the absence of major deviations from transitivity. The differences between the treatment scales illustrated well helped explore the effects revealed in the multivariate

analysis of variance. Overall, the utility scales showed the dominance of Consumer Reports as the most preferred information source. This result was, as with the behavior intention measure results, somewhat unexpected given the recalled use of this source and its rated usefulness reported in the survey research findings in Chapter Six and Chapter Eight. The incidence of use reported in the survey was 33-35 except the college educated and 17-25 except the non-college educated. One explanation for the discrepancy between the experimental and survey findings is that in the scenario experiment the subjects did not give sufficient consideration to the cost and effort involved in consulting Consumer Reports. They also may have been impression management reaction for subjects overstating their preference for Consumer Reports in the experimental setting which for some unspecified reason, did not apply in the field study.

The difference between the usefulness rating of Consumer Reports and the results of the experimental study also require explanation. Only two out of five of the internet users in the survey who claimed to have consulted Consumer Reports rated it as the most useful information source used in their search and shopping. Based on the experimental subjects' clear preferences for Consumer Reports it might have been expected that a great majority of the internet users who used Consumer Reports would have rated it the most useful source. A possible explanation is that prior to shopping most internet users rate Consumer Reports very highly but their expectations about the relative usefulness of Consumer Reports are often not fulfilled when they actually come to use the information source.

The relatively high perceived utility of the newspaper as a source of information observed in the experimental research was also not consistent with the findings of the survey research. Shoppers believe

consider this source of information but perhaps also prompted believe this source to be, relatively speaking, very useful.

The fitting of the second-stage submodels was again technically successful as measured by goodness of fit criteria. The GSP configurations confirmed the conclusions drawn from the primitive preference multivariate analyses of variance and proved to be a useful staged aid for explaining the rather limited effects of the treatments on subjects' preferences. The GPO submodel fitting and configurations provided a less impressive illustration of the treatment effects. Indeed, the three factor GPO submodel configurations were virtually uninterpretable.

CHAPTER FIFTEEN OVERVIEW OF THE AUDIENCE SHOPPING RESEARCH

Introduction

An interactionist theoretical and analytical model was used to study whether the circumstances that precipitate the purchase of a major laundry or refrigeration appliance also influence the shopping and search behavior of the buyer. The belief arose was that they did, and often this situational determinant had a greater influence than more generally accepted individual difference determinants such as previous shopping experience and education. However, purchase circumstance influence, not infrequently, depended on the type of appliance and the experience and education of the buyer. Such interaction effects were predicted by the theoretical model and were able to be measured by the analytical model. The latter model also exposed a number of spurious relationships that were produced by the application of a single bivariate, individual difference model.

This chapter does not attempt to summarize all of the research findings as each chapter concluded with its own summary. Instead, this overview presents and discusses some of the findings that have more immediate relevance to the marketing of the appliances studied. The chapter concludes with a list of methodological, theoretical and strategic questions that were raised by the above research and that might be addressed in future research.

The Purchase Circumstances

According to the results of the survey of recent buyers that was undertaken in late 1976, 28% of the purchases of refrigeration and laundry appliances were precipitated by a residential move. 28% were failure-induced. The remaining purchases replaced a still operating appliance, solely so as to avoid future repair costs.

The influence of a residential move on shopping behavior was not as great as expected, primarily because most residential moves are to a new residence within five miles of the old one (Fowler et al., 1969). In the 1976 study, two-thirds of the moves that precipitated the purchase were less than 20 miles in distance. Consequently, most movers did not really leave their familiar social and shopping locale.

The impact of product failure was also less than predicted but, in hindsight, quite fitting can also be explained. No matter what the circumstances, most shopping took less than half a day. On average only two or three types of sources of information were used, including the salesperson, only two or three brands were considered and only two or three stores were visited. A newspaper advertisement can be read, a friend or relative can be called, a catalog can be looked up, and several stores can be visited all in less than a day. When a refrigeration or laundry appliance fails the shopper still usually has a day or so to shop for a replacement. Food can be transferred from the refrigerator to a freezer or vice-versa. A neighbor's or relative's appliance can be temporarily used or dry-clean can be purchased to keep the food cold. Clothes can be washed and dried at a laundromat if a washer or dryer fails. There is potentially, still time to indulge in above average shopping and search activity. It is therefore, not surprising that the effect of product failure on shopping behavior was not as dramatic as expected.

having qualified the impact of these two previous circumstances, it should be re-emphasized that they were often had a systematic effect on the dependent measures than previous purchase experience which was assumed to be the most influential individual difference variable.

Shopping Uncertainty

The buyers indicated that they were fairly knowledgeable and certain about what to buy and where to buy, prior to their shopping and information search. A factor analysis suggested that there are two basic components to uncertainty. One is associated with lack of experience and knowledge, and the other reflects decision or choice conflict.

When studied on its own, previous shopping experience appeared to influence five of the six uncertainty measures but when the full (theory/ Situation/Problem) information model was applied experience was found to influence only two of the measures. Both of these effects also depended on the purchase circumstances.

These findings, however, do not seriously challenge the general proposition that previous knowledge and experience influence prior uncertainty. The single measure of number of purchases of the same type made in the past was a very crude indicator of past shopping experience. It did not capture the amount of previous shopping and search and the amount of brand and store evaluation undertaken in the past. The recent shopping for and purchase of a different type of appliance may also have more influence on uncertainty about store and brand choice than a purchase of the same type of appliance undertaken in the more distant past. Previous usage experience (good and bad) of different brands and product features was not even measured.

The latter decided were less sure about how to choose, what to choose and where to buy. The buyers of the refrigeration appliances were less sure about brand choice and the buyers of a microwave oven, a new innovation, were generally more uncertain compared to the white-wares buyers. A residential move increased not only uncertainty about where to shop but also uncertainty about model and brand choice.

The strategic implication of these findings is that a special effort should be made to contact the groups that were identified as being more uncertain as they may be more susceptible to the influence of manufacturer and retailer advertising and promotion.

Search Behaviours

Previous product failure had the biggest impact on search and shopping interest and goals. The buyer in this circumstance wanted to spend less time shopping, was less interested in learning new things about appliances and, in the case of refrigeration purchases, was less interested in enjoying the shopping for its own sake.

The generally most important goal was to find out what might be wrong or go wrong with the appliances looked at. Surprisingly, previous product failure did not increase interest in this goal. Education had no effect on any of the interests but previous shopping experience had some influence. Although the inexperienced did not indicate they wanted to learn new things about appliances they were more interested in enjoying the shopping experience for its own sake, perhaps because of the novelty of the activity. The experienced shopper was more interested in technical details and when replacing a still operating appliance was more interested in obtaining the latest technology.

The respondents even buyers were strongly agreed that they were interested in, learning new things and technical details, finding out what might go wrong with the items looked at, enjoying the shopping for its own sake and obtaining the latest technology.

The correlations between the interest measures suggested that trade-offs were not made between different goals. In particular those more interested in making a quick purchase were not less interested in the other learning and information acquisition goals. The interest in obtaining the latest technology (reducing the risk of missing the boat) was also fairly independent of interest about what might go wrong (reducing the risk of the boat sinking).

Both of the sets of uncertainty and search interest measures were related to the use of different sources and amount of shopping but they only explained a fraction of the variability of the shopping and search behavior. It could not be established whether these 'intervening variables' took on explanatory power reflected, the creativity of the uncertainty and search goal measures, the problems buyers had in resolving prior uncertainty and their search interests or, model misspecification. The strongest relationship was between prior uncertainty over what brand and model to choose and where to shop, and shopping and search activity.

The above results have several implications for marketing strategy: Information on performance reliability is of most interest to all buyers, whatever their circumstances. The very experienced buyer should be a target for information on technical details and the latest developments in new technology. The buyer of a new innovation is generally a more motivated searcher and shopper and will be more receptive to RTI forms of information and advice.

Perceived Brand Variability

The shoppers were asked to give their perceptions of how much the appliance brands differed in their price, features, style, durability, operating costs and so on on overall basis. Forty-five percent of the buyers of the white-ware appliances believed the brands varied a great deal in their prices, 37% believed they varied a great deal in their durability and 38% believed they varied a great deal in the features that they offered. The results suggest that the buyers did not discriminate between the brands solely on the basis of price. The least important dimension, as measured by the level of ignorance about interbrand differences, was operating cost.

The correlation between perceived price variability and overall perceived variability was 0.37 for the white-ware buyers and 0.55 for the microwave oven buyers. This is further evidence that perceived brand variability is not synonymous with perceived price variability across brands. This might have been true if brand choice was based on price.

The better educated professional to be more informed about brand differences. The inexperienced buyer was more likely to believe that big price differences existed between brands.

An examination of the shopping behavior of the groups who held different brand variability perception revealed that the shoppers who perceived big price differences between brands spent more time shopping, shopped at more stores and considered more brands. It is unclear, however, whether this perception generated the greater comparison shopping or greater comparison shopping generated the perception. The fact that the shopper who did not know whether the brands differed, did less shopping suggests the latter.

It has generally been assumed that the greater the perceived variability of the offering in the marketplace, the greater the perceived value of shopping and search and hence, ceteris paribus, the greater the shopping and search effort of the buyer. This assumption may, however, be too simplistic. The buyers who perceived that, on an overall basis, big differences existed between the brands did not undertake greater shopping activity. In fact, a higher percentage of these buyers considered only one brand. One explanation for this result, consistent with some of the comments made in the focus group interviews, is that the buyer who has a very clearly preferred brand choice is likely to perceive big differences between the brands and also undertake less shopping. The above assumption ignores the fact that perceived brand variability is based on judgments about the performance of different brands. Prior to search the buyer may judge the offering in the marketplace to vary greatly, but at the same time she may also have decided which brand is best. Perceived brand variability will only have a direct relationship with shopping effort if the buyer does not know which brands are at the extremes of the continuum on which the brands are judged to vary.

The Use of Information Sources

The buyers were asked in the survey research to indicate the types of information sources they thought about consulting (asking out), the types of sources they actually consulted, whether they found the information or advice from the source useful and which source was most useful. It should be emphasized that only the use of type of source was measured. Some buyers may have consulted several friends or relatives or several salespeople. The depth of use of a source was not measured and, in hindsight, should have been

To assist in assessing the tactical value of the different sources under the control of the retailer or manufacturer the use of the different sources is presented, by source, in Table 15.3. Three important facts should not be lost in this mass of statistics. Firstly, the salesperson plays a primary role as a source of information and advice. Previous research which has indicated the importance of in-store information has not placed the salesperson's importance in quite the same perspective as this study. A manufacturer who does not regard the retail salesperson as its strong right (marketing) arm does so at its peril. The results, however, carry an even stronger message for the government agency that undertakes a consumer information campaign. Utilising the voluntary support of the retailer and his salesforce may be a much more effective way of influencing buyer behavior than the use of mandatory labelling programs. An informed and co-operative salesperson is likely to be a very effective ally, particularly if supported by advertising that encourages the shopper to seek advice and information from the salesperson on the topic of concern, such as energy efficiency. On the other hand, salespeople who are ignorant of public policy goals and perhaps even hostile to them will very likely undermine even the most informative labelling program. The in-depth interviews suggested that salespeople were quite capable of debunking Consumer Report's information when it was considered necessary.

Little has been published on the role of the salesperson as a supplier of information and advice. The interviews revealed a number of very interesting tactics salespeople use to close a sale. More research is needed that describes the qualifying of the customer, the screening of the alternatives that results from qualifying the customer, and the

Table 15.1

Use of different information sources

1. Salesperson

Sixty percent of the shoppers thought about consulting and actively sought out a salesperson for advice and information. 80% found this information useful, 80% indicated a salesperson was the most useful information source they consulted. The only group less likely to consult a salesperson was the shopper replacing a still operating laundry appliance. The 34% of the shoppers who said they consulted a salesperson were less likely to consult a newspaper ad, brochures and label and Consumer Reports. Microwave oven buyers were not more likely to consult a salesperson.

2. Newspaper Advertising

Half of the shoppers claimed they did not read a single newspaper advertisement, 25% claimed to read one, 20% two to four and 10% claimed to read five or more. Seventy-five percent who bought and consulted an ad found it useful, 30% found it the most useful source. The inexperienced shopper was more likely to read a newspaper ad and full-time-rented replacement reduced the use of newspaper advertising. The 20% of all the shoppers who first consulted a newspaper advertisement were more likely to consult a catalog. Seventy-three percent of the microwave oven buyers read an advertisement, 30% read five or more.

3. Magazine Advertising

Twenty-seven percent of the buyers read (more than just noticed or glanced at) a magazine advertisement. 60% who bought and consulted a magazine ad found it useful, but only 10 noted it the most useful source. Replacing a still operating appliance increased magazine advertising readership, replacing a failed appliance reduced readership. Only 10 of all buyers indicated they consulted a magazine first, too few to estimate the impact of initially consulting this source on other search behavior. The microwave buyer was much more likely to consider, consult and find magazine advertising useful.

4. Catalog

Forty-six percent thought about consulting a catalog but only 30% actually consulted a catalog. 80% found the information useful. The inexperienced were more likely to consult a catalog. The 30% of all shoppers who first consulted a catalog were more likely to read a newspaper ad and consult a salesperson. The microwave oven buyer was not a heavier user of this source.

5. Brochures and Labels

Only one-third of the buyers thought about consulting brochures and labels and 38% actually consulted this source of information. 88% found the information useful, 38% rated it the most useful source. The college educated and those buying a refrigerator were more likely to consult brochures and labels. Failure-forced replacement reduced the likelihood. The very small number of shoppers who first consulted this source (only 4%) were, however, more likely to consult a newspaper or a Consumer Reports but less likely to consult a catalog, a salesperson and a friend or relative. The brochures and labels were much more often read by the microwave oven buyer.

6. Friend or Relative

Half of the buyers thought about talking to a friend or relative and 33% actually did talk to such a person. 85% found this a useful source, 34% indicated a friend or relative was their most useful source. The teenager and the laundry buyer were more likely to consult this source. The failure-forced circumstances reduced the use of this source. The 80% of all buyers who first consulted this source (24% amongst recent buyers) who were likely to first read Consumer Reports. The microwave oven buyer was more likely to use this source, more likely to first consult this source and more likely to find this source most useful. He did not, as expected, however, find this source more useful than the salesperson's advice or information.

7. Consumer Reports

Thirty-two percent of the shoppers considered consulting Consumer Reports and 33% claimed to actually consult Consumer Reports. 88% of this group found the information useful, 88% of them indicating this was their most useful source. The college educated were more likely to consult Consumer Reports. The 80% of all buyers who first consulted Consumer Reports were more likely to consult a newspaper or, brochures and labels, a neighbor and a friend or relative. The microwave oven buyer was more likely to consult Consumer Reports but fewer of them who consulted Consumer Reports found the information useful.

8. Neighborhood

Only 14% of the buyers considered consulting a neighbor and 13% ended up consulting such a source. Two-thirds of those who did found the neighbor's information and advice useful, a third of this group reported it as the most useful information or advice they received from any source. Product failure increased the incidence of consulting a neighbor. The 30% of all the buyers who first consulted a neighbor were more likely to later consult Consumer Reports and a salesperson but were less likely to consult brochures and labels.

methods the salesperson uses to help the buyer to make the final choice. The study of very substantial appliance salespeople's techniques may require the use of hidden radio microphones or the immediate interviewing of the salesperson after the sales interaction. Parallel interviewing of the shopper would reveal his or her reactions to the tactics.

The second important finding was the extent of the use of newspaper advertising as a source of information. Given the amount of sales advertising placed in newspapers by appliance retailers, the finding that only half of the buyers read at least one such advertisement was quite surprising. The use of newspaper advertising by buyers has, however, increased dramatically over the last decade. Brown and Starlin (1982) found that 26% of their 1988 sample of new car and major appliance buyers used newspaper advertising or magazine advertising and 10% of this group found the information useful. Half of the buyers in the 1988 study used newspaper advertising and 60% of these buyers found the source useful.

Finally, a high percentage of the buyers who thought about consulting a source did so and found it provided useful information. The problem is (if lack of consultation of particular sources is a problem) that buyers think about consulting very few sources. Perhaps some buyers think the extent of their information seeking stops because they just don't think about use of the possible sources of advice and information. Then again, almost two-thirds of the buyers mostly relied on their past experience and knowledge. This may explain why many buyers give little thought to the range of information sources available.

The Impact of First Source Consulted

The first source that was consulted influenced the use of other sources as outlined in Table 15.1. This first difference step was also related to the scope of search, shopping time, whether the product was purchased on sale and where the product was finally purchased (see Table 15.2). Consulting Consumer Reports first led to the most extensive search while going straight to the salesperson resulted in the least shopping and search and the lowest likelihood of purchasing the appliance at a sale price.

The source most often first consulted by the buyer who purchased at a specialty appliance store was the salesperson. A newspaper ad or catalog was more likely to have been first consulted by those who purchased from Sears, K&M or Penneys and a friend and relative was most often consulted first by those who purchased from another type of store (i.e., department, discount, furniture or bargain store).

These statistics demonstrate the importance of studying the purchase process, as a series of related activities. Future research may find it more useful to adopt such a model and measure activities by the sequence order as well as by their occurrence. Because of the problems buyers may have recalling the correct sequence this data would have to be obtained almost immediately after the purchase.

The choice of first source consulted was largely explained by the model determinants. A friend or relative was more likely to be first consulted by a microwave oven buyer and was marginally more likely to be consulted by the residential owner. However, the buyers' choice of first source was widespread across the different information sources:

Table 15.2

Influence of first source consulted on shopping behavior

Source first consulted	% indicating more than one brand was considered	% indicating more than one store was shopped	Actual shopping time was more than 2 hrs.	% indicating purchase was at a sale price
Consumer Reports	82.56	82.44	78.55	80.03
Newspaper ad	85.8	74.2	48.0	83.3
Friend or relative	76.3	32.4	87.0	66.7
Appliances	75.8	40.8	57.5	63.8
Catalog	72.3	48.1	62.8	66.0
Brochure or label	64.7	76.8	75.8	68.3
Salesperson	58.1	52.3	44.7	65.0

but did this variety of sources first contacted reflect major differences in attitudes toward the sources or was the selection of the first source largely a matter of circumstantial events or chance? For example, an advertisement may be read in the morning newspaper, a store catalog may be consulted because it was left on a coffee table by another family member or a friend or relative may telephonically call and prompt the shopper to seek advice from this source. A store may be visited on the way home from dropping children off at school. Future research needs to examine how much of the buyer's search and shopping activity is based on clear prior intentions.

Shopping Behavior

The survey revealed that the scope of the shopping (the number of brands considered and number of stores shopped) was about the same as that reported in earlier studies. An average of 2.3 stores were shopped and 2.4 brands were considered. About a third of the buyers considered only one brand and shopped at one store but the majority (six out of ten) considered two or more brands and shopped at two or more stores. The estimated time spent shopping, including travelling time, was less than expected. Forty-five percent of the shoppers spent less than two hours shopping, 70% spent four hours or less.

The experienced buyer and the college educated buyer shops at more stores and spends more time shopping. The inexperienced residential owner also considers more brands. Failure-oriented replacement reduced the number of stores shopped. Buying a refrigerator or freezer generally limited consideration of more brands and the shopping of a greater number of stores. The microwave oven buyer considered more brands but did not shop at more stores.

The two types of stores most often visited were a specialty appliance store and Sears. Approximately three out of five of the buyers stopped at these types of stores, while only one in four visited a discount store and one in two visited K-Mart. Telephoning a store is not very common and when a call is made it is most likely to be to a specialty appliance store. Buyers replacing a failed appliance were less likely to shop at all types of stores except the specialty store. Some of the social determinants appeared to influence the type of store at which the purchase was finally made. This was a disappointment, in the sense that this finding reduced the relevance of the study for segmentation strategy. The sales conversion ratios (the percentage of buyers who purchased at that type of store divided by the percentage who visited that type of store) of Sears and specialty appliance stores was much higher than the department and discount stores' ratios.

The measures of brand loyalty and whether initial brand preference changed during the actual shopping process produced some interesting statistics. Only 33% of the buyers changed their initial brand intention while shopping and only 23% of the buyers purchased the same brand as the last one owned. Sixty-one percent of the shoppers who were not brand loyal had that intention at the outset of shopping. It would seem that much of the crucial decision making is made, and is not changed, prior to shopping and brand loyalty is not primarily lost because of persuasive in-store selling.

It was observed that the consulting of Consumer Reports increased the likelihood of changing initial brand intentions. This was the only source planned to have a significant effect on intentions. The buyer who more strongly disagreed they had tried to find out what might be wrong or go wrong with the appliances looked at were more likely to

change initial brand intentions and were less likely to be brand loyal. However, the proper evaluation of why consumers change intentions during the shopping process and why brand loyalty is lost before shopping are issues that need to be addressed in future research.

The observed impact of precipitating circumstances on brand loyalty raised more questions than it answered. The buyer with some previous buying experience was less loyal in the failure-forced replacement situation. The most experienced buyers were, however, more likely to be brand loyal in the failure circumstance but were much less likely to be brand loyal when replacing a still operating appliance.

The percentage of the appliances that were claimed to have been purchased at a special sale price was extremely high (75%). This incidence was lower in the failure-forced circumstances. Type of store where purchase was made was also related to special price purchases. Ten out of three of the appliances purchased at a specialty appliance store were made at a sale or special negotiated price but fully seven out of eight of the purchases made at Sears, Roebuck or Penney's were reduced price buys.

Shopping and search success was measured in two ways. Two-thirds of the shoppers claimed to find exactly what they wanted, the other third chose the best of what they had seen, as they did not feel that further search and shopping would be of any benefit. After an average of seven months ownership, 85% of the buyers were satisfied with their purchase, 72% were very satisfied. Only two in every hundred thought they were in any way dissatisfied.

The Scenario Experiment

The scenario role-playing experiment observed the effect of manipulating precipitating purchase circumstances on the subject's motivations, intentions and source preferences. It cannot be rated a resoundingly successful exercise. The locale familiarity manipulation was suspect, as many of the subjects did not know the local stores were unfamiliar.

There were also inconsistencies in the responses of the subjects. The subjects were first asked to describe, in their own words, what they would do in the situation and what sources of information they would consult. These unprompted responses indicated that the first step a majority of the subjects would take would be to go straight to a store. The only other three initial actions mentioned were consulting Consumer Reports, talking to a friend or relative or reading a newspaper ad. Yet when presented with a list of possible initial steps the subjects' average likelihood of undertaking the different activities did not tally with their unprompted intentions. Similarly the incidence of sources named in the unprompted responses was not consistent with the prompted responses to questions that asked how likely it was that particular sources would be consulted.

The subjects in the experiment indicated a much higher likelihood of consulting Consumer Reports and brochures and labels than might have been expected based on the survey research findings, even after adjusting for the greater average experience and higher average education of the experimental subjects. The patterns of differences suggest that the responses of the experimental subjects were somewhat influenced by self-presentation concerns.

Despite these problems, the results of the scenario experiment tended to confirm the findings of the survey research. The unfamiliar female treatment reduced intentions to consult a repairman and increased intentions to use the fellow shopper. The urgency treatment increased the desire to make the purchase quickly and decreased the importance the shopping for his own sake. Except the more experienced, this treatment also reduced the importance of learning new things and finding out what might be wrong or go wrong with the appliances looked at. The females in the urgency treatment had a lower likelihood of visiting several stores and were marginally, but not significantly, less likely to consult a number of information sources.

The college educated respondents indicated a higher likelihood of consulting Consumer Reports and the more experienced were more interested in limiting the scope of their search and less interested in consulting Consumer Reports or a friend or relative. Some interesting interaction effects were observed which implied that different groups of subjects had different reactions to the treatment manipulations.

The multidimensional preference scaling of information sources was technically successful but provided few fresh insights: Consumer Reports dominated the other sources in all treatment conditions and amongst all the groups of subjects. The only interesting effect was that of unfamiliar female on the relative attractiveness of Consumer Reports, catalogs and brochures and labels. She was judged to have relatively higher utility in this condition. A possible explanation is that they are not local sources of information which may be less desirable because they are somewhat unknown quantities.

Future Research Directions

Many topics were raised that deserve further attention. Some were methodological, some were theoretical and others were strategic in nature. Table 15.3 presents a list of a few of the questions and issues that could be addressed in future research. It is by no means exhaustive.

In addition, many of the hypotheses were only partially supported by the findings. The relationships they supposed were observed to exist for a particular group of shoppers, or in a particular purchase circumstance or for only one of the types of home appliances. Often a reasonable post hoc explanation could be found for the interaction effects. However, a number of these effects could not be explained. They may have been generated by statistical spurs but if replicated in future research they will require new theoretical explanations.

The methodology used in this study may not be appropriate for researching many of the issues and questions in Table 15.3. The specific experiment produced findings of questionable value and, in hindsight, may have been ill-conceived. The main problem with the survey study was that it was too broad in scope and shallow in purpose. Future survey research should be tighter in conception, operationalization, execution and analysis. It may also be advisable for future work to either take a process approach and study sequences of activities, or to focus on a particular activity. The latter would involve a micro-perspective where shopping or search behavior is studied in great detail in a very specific shopping or search setting. Greater consideration also needs to be given to finding more creative ways of describing and measuring both in-store shopping behavior and out of store search activity.

Table 18.3

Some questions and issues for future research

Methodological

- The impact of time since purchase on recall of behavior. An effect was not observed in this study.
- Order effects in sets of pairwise preference scales. Such an effect was observed in this study.
- Use of log-linear analysis to expose spurious cross-tab relationships. Found very useful in this study.
- The impact of prompting on expressed behavioral intentions. Prompted and unprompted responses differed significantly in the stimuli experiment.

Theoretical

- When does an unselected alternative become prior experience?
- Distinguishing between the effects of previous usage experience and previous shopping experience.
- What is the major reason for the commonly observed time-lag between product recognition and purchase? This time-lag is not related to shopping activity.
- How does a shopper assess the reputation of a local retailer (e.g., based on word of mouth)?
- Prior uncertainty needs to be properly defined. Does it have three components: lack of knowledge, choice conflict and self-confidence?
- Why are the better educated less certain?
- When, if ever, does the shopper make a trade-off between seemingly conflicting search goals?
- Is the choice of the first source consulted deliberate or largely the result of circumstantial convenience?
- Are there any systematic relationships between the consulting of sources? If so, why?
- Do common shopping activity sequences exist?

- Why were the relationships between the prior uncertainty measures and search intensity so weak?
- Why were the relationships between behavior and the intervening variables so weak?
- Does perceived price variability have a different effect on shopping behavior than perceived performance variability?
- Is the ignorant shopper a brand loyal specialty shopper or a convenience shopper?
- Are brands considered in parallel or considered and rejected in sequence?
- What choice rule is used in purchasing an appliance? Is it compensatory on features, cost and performance and disjunctive on price?
- Does a particular general decision making style influence shopping and search behavior?
- To what extent does the salesperson shape the choice rule (e.g., by comparing alternatives after qualifying the customer and narrowing the options down to a choice of two)?
- Are particular types of buyers more likely to buy under particular purchase circumstances?
- Is it really sensible to expect the major influencing agent in a new innovation purchase to be a friend or relative when few of these people will be knowledgeable?
- How is the usefulness of an information source determined?

Answers:

- Can the recent cover be reached through mailers and Yellow Pages?
- Can the promotion of superior features and durability reduce the consumer's price sensitivity?
- How useful are store supplied guides on how to choose an appliance?
- How does the salesperson's role complement "urban specialist" newspaper advertising? When does loss leader pricing and a salesperson's good advice and attempts to satisfy customer needs become "left and right"?

- Should magazine advertising emphasize reliability or new technology and technical details? Should the first theme be used in media directed at newly marrieds and the second theme be used in media directed at the experienced buyer?
- Why is the use and usefulness of the salesperson high?
- Why are brochures and labels, newspaper ads and Consumer Reports not used more often by shoppers?
- Why is brand loyalty low?
- Why is so much brand loyalty lost before shopping starts?
- Why are initial brand and model intentions changed during the shopping process?
- How many buyers attribute the brand and model choice to a respected advice agent (e.g., friend, mother, salesperson, Consumer Reports)?
- Why is the sales conversion ratio of department and discount stores so low?
- Why is the magazine not used more frequently to provide information on brand reliability and local operating problems?
- In a new shopping locale are non-loyal information sources such as brochures, labels, catalogs, and Consumer Reports more attractive than when shopping is undertaken in a familiar locale?
- Are the shoppers' perceptions of a sale price always correct?
- Why is the specialty store able to sell a higher percentage of non-sale appliances?
- Why is the buyer of the laundry appliances more satisfied than the buyer of the refrigeration appliances?

At its outset, this study seemed to offer the exciting prospect of applying a strong theoretical and analytical model to the study of a strategically very important question. The question was whether the shopping behavior of the recent reader and the buyer who replaced a failed appliance was distinctive enough for them to be treated as distinct market segments. How help the theoretical and strategic perspectives the study produced less than it promised. The problem was that the buyers in these circumstances did not exhibit particularly distinctive shopping behavior. They did not favor particular stores, nor did they strongly favor particular information sources. The best that can be said is that this result may suggest a marketing opportunity (special promotion or information campaigns run by particular stores or manufacturers and directed at buyers in one of these circumstances may develop such distinctive behavior).

Theoretically, although the P/T/B model that was used was much superior to a simple bivariate model, it was still very crude. The essence of interactionism is that the person should be studied within the situation. The study of the effect of a single characteristic of a person on his or her reaction to a single characteristic of a situation is the next best; and, indeed, impoverished operationalization of this theoretical model.

The problems in adding further situational or individual difference dimensions to the model are two-fold. Firstly, the sample size may have to be very large. Otherwise complex interaction effects may be created by one or two outlier observations in a cell with very few observations. The second problem is that of parsimoniously explaining complex, multi-way interaction effects. Describing a four or five-way interaction effect is

difficult enough, let alone explaining why it occurred. Herein lies a dilemma. A simple interactionist model is useful to explain much of job behavior but it is theoretically attractive because its explanations will be reasonably straightforward. A more complex interactionist model, containing several different situational and individual difference effects, will explain a greater amount of the variability in behavior but it very likely will be theoretically unattractive because of its complex explanations. In the view of this writer the choice is clear. Psychology should not be confused with nativity. Whether or not it or not it seems that computer behavior is a complex phenomenon that requires complex explanations.

CHAPTER SIXTEEN
THE IMPACT OF MARKETING COPY AND STATISTICAL
INFORMATION ON CONSUMER JUDGMENTS

Introduction

The impact of a colorful, slice-of-life anecdote is well known to the skilled preacher, politician, lawyer, educator, salesperson, humorist, newspaper writer and advertiser. Despite the widespread use of this type of information little is known about when and why it has such an impact. In particular the relative influence of mere words, personal experience or information about other people's individual experiences compared with equivalent summarized, statistical information is a largely unexplored topic in consumer decision making theory.

One would dispute the powerful influence that the advice and experience of other consumers can have on a consumer's judgments and decision making. On the other hand the effectiveness of summarized, statistical information has been questioned. Roberts et al. (1976) have pointed out that the failure of many public campaigns aimed at introducing new farming techniques, stopping smoking, inoculating children, reducing highway driving speeds and conserving energy may have been due to their heavy use of abstract, statistical information. This suggests that such campaigns should have their statistics enriched with anecdotal case-history information that is more evocative and meaningful to the audience. It also raises questions about the usefulness of government regulations that require manufacturers to provide information about product ingredients and performance statistics.

This chapter reports on an experiment that examined the impact of internally and externally enriching concrete, case-history and abstract, statistical product information. Previous research undertaken by two groups of psychologists found that concrete, anecdotal information is much more influential than abstract statistical information. Their conclusions are, however, possibly suspect because of treatment confoundings and leading instructions to the experimental subjects.

The Information Type Effect

Case-history information is claimed to have a greater impact on judgments because it is more vivid, personal and concrete than remote, pallid and abstract statistics (Roberts et al. 1990). Case information's characteristics make it easier to understand, easier to encode into memory and more available to memory. Typically, case-history information has been conceived of as anecdotal information which describes a particular event or object in detail. A simple explanation for the information type effect is that it is this enriching detail, which usually accompanies case information, that enhances the memorability and impact of case information. For example, the consequences of an event may enhance the recall of the event and hence increase the availability, perceived frequency and judged likelihood of the event.

If vividness and detail do drive the concrete-abstract information type effect then perhaps it is possible to create a similar effect by enriching very basic case information or even statistics with imagined details. Imagining an extremely desirable or undesirable event happening to yourself such as winning a lottery or dying in an aircraft accident has been claimed to make such events more available and consequently more likely to occur in the judgment of the triager (Thurley and Salmon 1973). Carroll (1978) was able to demonstrate a similar effect with

students making judgments as to who would win the 1976 presidential election, after imagining either Carter or Ford as president. However, other exercises such as imagining the success of a college football team, the loss of a wallet or embarrassing spilling of coffee were reported to have failed to increase the estimated likelihood of such events.

Slovic's Abstract Information Research

The power of concrete, case-history information over abstract, statistical information is frequently cited as having been convincingly demonstrated by Kahneman and Tversky (1971). Subjects were asked to make a judgment about a person's occupation (either lawyer or engineer) based on statistical information about the occupation likelihoods and an additional pen-portrait description of the person. When provided with the case information on the individual the abstract, statistical information was virtually ignored. However, the experimental instructions and procedures may have encouraged the subjects to use the pen-portrait that described the person as the basis for their judgment. They were told that this case information had been constructed by experts and used by other experts to make "highly accurate" predictions. The same was not said about the statistical information. The offering of the case information, after supplying the base-rate statistical information also would have led the subjects to believe the case information was useful, otherwise why would it have been provided?

In another major study, Borgida and Roberts (1977), asked students to indicate the likely courses they would take in the future. In the summary, statistical information condition subjects were handed course descriptions and average student evaluations of each course. In what was called the 'face-to-face' condition the same course descriptions were provided and in addition several upper-level students commented on what they liked and

didn't like about the courses and gave verbal ratings of the courses. In doing so, these selected commentators talked about various educational outcomes consequences and described the courses using various adjectives. The number of highly-rated, low-rated and intermediate courses chosen by the subjects was measured. The two groups differed on their choice consequences weighted by a conviction measure. There was no difference in the choice number of highly and lowly rated courses chosen.

The authors concluded that the summary information was as 'inefficient in the experimental setting as it is 'in the real world'. The observed weak effect of summary information on the preference judgments was seen to resemble the weak effect of consensus information on attribution precision (Sherrell and Ferguson 1985). There is again, however, some question as to whether the task and the design were a fair test of the power of summary, statistical information. It is not clear that summary course ratings were that useful. As far as students' success or enjoyment of university courses are concerned there are clearly 'different horses for different courses'. Students will seek opinions from co-oriented, similar-to-self students rather than aggregate opinion that combines Jack with genius and blue-socking with blue-socks-off. The researchers themselves acknowledge this point and provide evidence of such discernment by quoting students' comments that friends' evaluations are preferred over statistical ratings. Consequently, the results may have been due to a source effect because students in the face-to-face treatment referred to the panel members of similar sex, age, appearance, voice and language. By definition the panel members may have also been credited with greater than average expertise and experience. Another confounding existed between information type (text/statistical) and medium (verbal/written). Over the four pages of course descriptions were read to the subjects in the face-to-face condition. The

action of the message may have influenced perceptual arousal. It also allowed the conveying of non-verbal information about the speaker and women's attitudes toward the courses. In short, more information was provided in the face-to-face treatment and it was transmitted by a medium that may have given it more impact.

Definitions and Distinctions

The factors that need to be conceptually and operationally separated from the statistical/data dictionary are information source, information transmission medium and the importance, distinctiveness and detail of the information. If the emotional salience or vividness of the information and hence its availability in memory are partly determined by the source, the medium and the substantive content of the information then the separate consideration of these factors is particularly important.

In this study, summary statistical information was conceived of as information presented as a ratio, frequency, proportion, percentage, probability, average, median, mode or some other statistical parameter. Such expressions often involve the use of mathematical symbols such as numerals rather than written figures, the Σ sign and the use of the decimal point (e.g., 2.3-subscribers/household). The summaries are of the incidence, absence, or rate of occurrence of a particular case (e.g., type of object, condition, judgment or event) within a usually large sample or population of cases (objects, conditions, judgments or events). The summarizing implies a processing of the information prior to its presentation. The supplier of the information rather than the receiver has systematically processed the raw case histories by making certain assumptions or by applying explicit allocation rules (e.g., Consumer A was satisfied, Consumer B was not, etc.).

Case-history information describes a series of specific events, objects, conditions or judgments. The series is usually small in size, limited by presentation or response attention limitations, and may in fact consist of only a single case. The case-history information is generally a set of pictures, word-statements, vignettes or episodic scripts where the unique, singular identity of each case is retained. Statistical terms or mathematical symbols are not commonly used as the information is not in summary form (assumptions are dimensional measures of a particular case). As the information is not summarized it is not preprocessed.

The Hypotheses

The objective of the following experiment was to examine the impact of information type, the describing of outcome consequences and prior mental priming on the judgment of the likelihood of an event. Specifically, the following three main effect hypotheses were tested.

- H₁) Describing the specific consequences of an event will inflate the judgment of the frequency of that event.

Working with case and statistical information with outcome detail, should make the information more vivid and impactful thus encouraging an availability bias. An alternative competing interaction hypothesis is that working case information will have no effect on judgment but enriching summary information will have an effect. This is because the summary information is already preprocessed and individual cases are not involved in the judgment process. Rather a transformation is made of the preprocessed statistical information onto the judgment scale. This does not involve any imagery. For example, the transformation of a percentage or 100 out of 500 onto a likelihood scale should not evoke any mental imagery of the event whose likelihood is being estimated.

H_2 : Priming will inflate judgments of the frequency of an event.

Repeating the consequences and occurrences of an event salient before receiving related information should increase the vividness of the information, mental imagery and preoccupation with the event and therefore, encourage the availability bias. Memory priming effects have been observed by Ayer and Drull (1978). A competing two-way interaction hypothesis is that priming will only have an impact on judgments based on case information because only case-history information processing is susceptible to imagery priming. There is also a competing three-way interaction hypothesis, that priming will only have an impact on case information, enriched with descriptive detail. This assumes that priming amplifies the vividness of the descriptive detail and that the non-descriptive distribution only has an impact on case-history information processing.

H_3 : Case information will generate higher judgments of the frequency of an event than summary, statistical information.

The sequential case by case information processing involves combining different vignettes or scripts using apparently intuitive combinatorial algorithms, including the availability heuristic. Each script processing allows the evoking of images associated with particularly emotionally salient events. In the following experiment the salient event was 'product failure' and it was assumed that information about such an event would evoke stronger images than information on non-failure (as the reporting of an aircraft crashing evokes stronger images than information on an aircraft not crashing). This will increase the memorability and availability of such events. The transformational process used in producing a judgment based on preprocessed, statistical information does not require consideration of individual cases and therefore imagery and availability cannot bias the judgment.

Subjects

Subjects

The subjects were 178 women drawn from PTA and church groups in Gainesville, Florida. Participation earned \$5.00 for their organization. They were informed that they would be participating in research involving home appliances. The exercises were held in the early morning in school cafeterias or church halls. Subjects participated in 17 groups varying in size from five to 21. Seventeen subjects' responses were discarded; ten because they were suspicious about the credibility of the report and seven because of highly individualized judgments and grossly irrational sensory check responses. The remaining eight failed to complete the crucial treatment; one fell ill during the exercise, two could not speak or read English and five women belonging to a remedial reading class were judged by their teacher to be functionally illiterate. However, the overall average education of the sample was high, with 81% claiming some form of college education.

Procedure

The first task subjects undertook was to imagine that their refrigerator suddenly failed (the primed condition) or to list all the appliances that they own (the unprimed condition).

The priming treatment required subjects to write down in their own words what would happen if their refrigerator suddenly failed and what they would do about it. They were then asked to check whether any of a number of listed consequences would worry them (see Appendix F for priming treatments). The consequences included food wastage, asking a neighbor for help, having a stranger in the house, having to pay the costs of repair, and having to clean up. The written responses on the priming task served a twofold function. They assisted in forcing the subjects to

undertake some form of script processing about their refrigerator falling and also reduced some of the connection between the printing and the task task, which the experimenter explained was unrelated. If the subjects had not been required to give a response to the printing instruction, an obvious association between the tasks would have been made.

In the second task, each subject spent five minutes reading a brief one page report describing the breakdown rate of a brand of refrigerator (Brand X). It was explained that for fairness, the brand was not named because the performance of other brands was not provided. The report was presented as part of a more general study being undertaken which would be made public in the near future. It was stated that the purpose of the exercise was to obtain consumers' reactions to the report and what it had to say. Subjects were not warned they would be asked for their opinions of Brand X after reading the report. They were however, asked to read the report several times, very carefully.

After reading the report subjects noted it is format of being straightforward, believable, easy to understand and easy to read. These questions provided an immediate justification for reading the report and helped the subjects become familiar with seven-point, bipolar scales.

The Information Reports

There were four different types of reports each presented as University of Florida Center of Consumer Research letterhead paper (see Appendix 3 for the information type treatments). Two of them presented case-history information and the other two presented summary, statistical information. The case-history information presented the actual quotes of five consumers in response to the question 'did your Brand X refrigerator break down (fail) at any time before it was eight years old'. The bare case-history report presented four brief quotes indicating there had been

no problem (e.g., 'No problems. It has worked fine'). The fifth quote, presented sequentially as the fourth of the five quotes started 'Yes, our refrigerator did break down. It stopped working and we had to get it repaired'.

The subject type of case-history report was the same as the first, except that the break-down event and its consequences were described in the following script form:

We didn't notice it for about a day. The ice-cream was a bit soft at supper time, but I didn't give it a lot of thought. The next morning there was a sticky mess on the floor and a lot of sticky ice-cream and other stuff had dripped down into lower shelves. We threw out about \$20 worth of food. Better to be safe than sorry. Other things we ate in a hurry. It took about three phone calls to get a repairman to come and it was a nuisance having to wait for him to call. In the end it didn't take him long to fix it, but it cost around \$45. I remember now when he rolled the refrigerator back some jars and a jug tumbled over inside and I had another clean up job. Afterward the break-down must have lasted 2-4 hours of my time. I guess our experience was nothing special. . . . It could have been worse. . . but I wish it hadn't happened. At the time I was very annoyed.

The summary, statistical reports presented the responses of 180 housewives to the same question. In the first bare report 105 of the housewives were reported to have had no problem, 180 of the housewives were reported to have said that their brand X refrigerator did break down. This statistic was also presented in percentage form ('seventy-nine percent' and 'twenty-one percent' respectively). This failure-rate was surprisingly higher than the case report (20%) because in pre-testing, a number of subjects became suspicious of a report presenting findings that rounded out to 400/100 and 80% and 20% respectively. The pre-testing also resulted in the age of the refrigerator being reduced from 12 to eight years. Although actuarial estimates indicate that the average life of a refrigerator is about 14 years, a report indicating around a 20% failure-rate over 12 years resulted in very high reliability and durability

Judgments. To avoid any ceiling effects masking the treatment manipulations, the age of the refrigerator was dropped from 12 to eight years.

The second statistical summary report described the typical consequences of failure to summary, statistical terms:

The housewives whose appliances had failed indicated that generally quite a large clean up job resulted from the failure. On average, food wastage amounted to \$25. The average repair cost was around \$45. The number of phone calls made to get a repairman to come averaged three. The total time of the housewife that was wasted by the break-down amounted to an average of about 3-4 hours (including time waiting for repairman to come). The majority of the housewives' reactions to the event at the time were that they wished it had not happened and they rated they were very annoyed (on a scale going from somewhat annoyed to extremely annoyed).

The average consequences presented in this summary report corresponded with the consequences of the single incident in the equivalent case-history report. All four reports were presented in sentence form. The summary, statistical reports did not use special mathematical symbols or numeric figures.

The four reports manipulated information type and consequences described. The actual failure-rate of Brand X was higher in the summary report and its sample size was 100 times larger. Assuming that small sample size would make subjects, if anything, less confident and more hesitant in their judgments than both of these potential confoundings (differences in failure-rate and sample size) should result in a more severe test of the impact of case information compared with summary information.

In completing the questions that evaluated the report, the subjects, as a group, handed in the explanatory letter, the report and questionnaire. They then received a color coded questionnaire concealed at the back of a closed folder. This questionnaire asked subjects to indicate the

likelihood of failure of a Brand 2 refrigerator if they had used it (on a seven-point extremely unlikely - 50/50 chance - extremely likely scale) and to state how many Brand 2 refrigerators out of 50 would break down (49%) at some time before they were eight years old. Reliability and durability ratings were also obtained and subjects rated their confidence in each of these four judgments (see Appendix 8 for measurement instrument).

Subjects were next asked to recall how many households were interviewed in the study and how many households reported that their Brand 2 refrigerator failed. These in the consequences-described condition were asked to recall details about the consequences. Finally, subjects were asked a further series of questions asking their perceptions of the report. The time between reading the report and making the judgments of Brand 2 was at most five minutes.

Results

The consequences described, pricing and information type treatment effects were tested using a multivariate analysis of variance (MANOVA, Green 1973) of a 3x3x2 standard factorial design. This enabled the testing of response patterns as well as univariate measures and at the same time eliminated the effects of nonorthogonality due to unequal cell size (12-21). The hierarchical order of testing proceeded downwards from the triple interaction, through the two-way interactions to the main effects. Simple interaction and main effect tests were undertaken within the levels of significant higher order interactions (Appendix 10). The women's perception of the reports are presented first, followed by measures of the memorability and recall of the information that were made after the judgments. The effects of the manipulation on the critical likelihood and failure-frequency judgments and the reliability and durability measures are then presented.

Synopses of the Reports

Overall the reports were rated, on a 1-7 scale, highly believable ($\bar{X} = 6.1$), easy to understand ($\bar{X} = 6.6$), easy to read ($\bar{X} = 6.0$) but only somewhat interesting ($\bar{X} = 4.1$) and vivid in the differential scale ($\bar{X} = 3.8$). Only the main effect of information type significantly influenced the vector of nine perception measures ($p < 0.05$). Figure 15.1 presents the bipolar perception profiles of the two types of reports. Five of the individual measures were significantly different. The statistical reports were rated more representative ($F(1,148) = 11.2, p < 0.001$), more specific ($F(1,148) = 14.3, p < 0.001$) and surprisingly, more interesting ($F(1,148) = 11.5, p < 0.001$). The case reports were considered more first-hand ($F(1,148) = 9.9, p < 0.001$) and personal ($F(1,148) = 11.5, p < 0.001$).

Given the suggestion that the vividness of information may drive eye-subject bias, the full-rigid bipolar scale was clearly the most reported of the nine measures. The group means are presented in Figure 15.2. Writing ($F(1,148) = 4.3, p < 0.037$) and describing consequences ($F(1,148) = 5.3, p < 0.024$) both decreased the rated vividness of the reports. Although information type did not influence the vividness of the report there was a marginally significant interaction between it and describing consequences ($F(1,148) = 3.55, p < 0.067$). Describing the consequences in case form increased the vividness of the case reports, but describing the consequences in statistical terms did not increase the vividness of the statistical report. Only three of the remaining 32 univariate tests were significant. Describing the consequences made both types of reports more believable ($F(1,148) = 3.3, p < 0.07$) and made the case report but not the summary report easier to read ($F(1,148) = 6.8, p < 0.008$) and easier to understand ($F(1,148) = 4.3, p < 0.042$).



Figure 18.1. Place rating of the Case and Statistical reports.

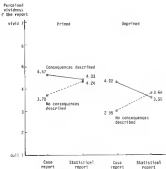


Figure 15.3: The rated vividness of the report by printing, information type and describing consequences.

Information Memory[Type and Recall]

It was expected that attaching the reports with consequence information or printing the subjects would increase the memorability of the information. Beardsl, agreement with the statement "the information was easy to remember", was high (3.5 on the 1-7 agreement scale). However, printing did not increase agreement and in fact describing the consequences decreased agreement that the information was easy to remember ($F(1,148) = 4.14, p = 0.024$). The adding of consequences information meant more information had to be remembered thus making the task more demanding. The case information report was regarded as easier to remember than the summary report [$F(1,148) = 4.35, p = 0.035$] but there was an interaction effect between information type and describing consequences [$F(1,148) = 4.48, p = 0.033$]. The addition of the information on the average consequences of product failure to the statistical report reduced the perceived ease of recall of the information much more than did adding information about the consequences of product failure to the case-history report.

This information type-consequences described interaction effect was confirmed on inspecting the incidence of accurate recall of the number of households informed and the number of households who reported their refrigerator had failed. Only eight of the 40 subjects who read the full statistical report correctly recalled these two numbers. Four mistakes were made by those who read the case report but overall the recall of this critical information that enabled the estimation of failure-rate was poor (only 25% of the women recalled it correctly). This is perhaps not surprising given the women were not led to believe they were required to memorize the information when they read the report. What is interesting, however, is that the recall by the subjects of the outcome consequences was considerably better than their recall of the failure-rate information.

Eighty-six percent of the women who read the full reports recalled correctly that \$20 of food had been thrown away and 85% recalled that the repair cost was \$40. By contrast only 40% of this group could correctly recall the number of housewives sampled and number reporting product failure. The common mistake of those reading the statistical report were to over-estimate the number of failures to have been 100, 120 or 180. The common mistakes made by the subjects reading the case report were to recall the sample size as having been 4, 8 or 7.

A new variable called the recall-rate was created that measured what each subject's failure-rate estimate would have been if she had based it on her recall of the number of refrigerators that the report said failed and the total sample size. There was only one significant effect of the three treatments and their interactions on this recall-rate. The subjects who read a statistical report made memory mistakes that resulted in an overestimation of the failure-rate. Their average recall-rate of 5.52 out of 20 was 8% higher than the average 4.37 recall-rate of the women who read a case report ($F(1,140) = 7.1, p = 0.008$). A further eight subjects were dropped from this analysis because of missing data.

The Failure Frequency Judgments

The first two hypotheses (H_1 and H_2) were not supported. Ordering and describing consequences had no effect on either of the two failure frequency judgments. Neither were any of the higher order interactions between the main effects significant even at the 0.10 level.

It was decided at the outset of undertaking this experiment that rather [unexceptional] product failure consequences should be described. For this reason the loss of food was set at a modest \$20 and the cost of repair was stated to be \$40. As a manipulation check the subjects in the consequences described condition were asked to rate the seriousness of

the consequences. The five-point scale ranged from 'not at all serious' (1), through to 'extremely serious' (5). The average rating on this scale was 2.7, which confirmed that the described consequences were typically seen as fairly serious but not extreme. A number of the women, after participating in the experiment, described problems they had experienced with refrigerators in the past (e.g., persistent flooding caused by an ice-water assembly) more severe than that described in the reports. Perhaps a significant failure frequency effect could have been generated if one of the consequences of the product failure had been bodily injury, food poisoning or a major explosion and house fire. The purpose was not, however, to search for an effective manipulation but to establish whether switching case or statistical information with rather typical detail results in judgment biases. In this experiment it did not.

There are several explanations for the absence of a priming effect on the failure judgments. First, an examination of the comments written by the subjects in the priming task revealed that they appeared to spend most of their time thinking and writing about how they would react to the failure of their refrigerator rather than considering the possible unfortunate consequences. Seventy-two percent said they would immediately call a repairman, 28% said they would move the food to a friend's refrigerator and 10% said they would open the door as little as possible. Several indicated they would buy dry ice, cook frozen food or move food to another freezer. The consequences of the failure were not highlighted as much as the actions of minimizing such consequences. Secondly, when the primed subjects read the report the information very likely prompted them to remember their own experiences of refrigerator failure or other information they had heard or read on the subject. Such recalled information would be part of the cognitive scheme used to make sense of the report. If this

were so, then the major difference between the priming and non-priming condition was the greater time the primed subjects had to imagine product failure. This may have been sufficient to increase the perceived vividness of the expert but not strong enough to generate any judgment bias. A priming effect on a frequency judgment may only occur when a certain event or object is thought about (i.e., rehearsed) in the memory work space for a longer time or on separate occasions. The priming treatment may also not have been evocative enough. If subjects had been asked to close their eyes and to think in terms of scenes or pictures then such visual imagery priming may have produced a carry over inevitability judgment bias. Asking subjects to imagine a particularly catastrophic failure may also have produced the "desired" effect.

The external encoding of information by describing consequences or the internal encoding of information by priming may also have a delayed rather than an immediate effect on judgments. Less memorable facts may be forgotten leaving only the more vivid information in memory to be recalled (Sipes, Thompson and Bower 1980) and to act as a context for new information (Stokier et al. 1979).

Information Type's Significant Effect

The third hypothesis (H_3) that the failure frequency judgments based on case information would be higher than the judgments based on statistical, summary information was supported. Information type had a significant effect ($p < 0.001$) on the vector of the two judgment measures. Its impact, however, was greater on the failure-rate, not-at-25 measure ($F(1,148) = 10.9$, $p < 0.001$) than on the failure-likelihood measure ($F(1,148) = 2.3$, $p < 0.102$). The latter effect only became statistically significant when a covariate such as age was added to the design, thus reducing the within-cell error variance. It was expected that the more

subjective estimate of the likelihood a Brand X refrigerator would fail, if the subject had owned it, would be more susceptible to bias than the more objective out-of-20 failure incidence estimate. Measurement artifacts may have biased the results. The likelihood scale ran from 1-7 while the out-of-20 scale ran from 0-20 and in particular had a greater number of intervals around the critical point of the scale. The coarseness of the likelihood scale combined with the unfamiliarity with such a likelihood scale may explain the measure's marginal significance. In hindsight a 3-30 likelihood scale would have been more appropriate as it would have allowed a computationally easier transformation of the information onto the judgment scale.

A behavioral explanation for the differential measurement result is that the information on group performance (whether 8 or 500 cases) was relevant for judgments about failure incidence for a group of 20 appliances but much less relevant for the judgment of the likely failure of one, personally owned appliance. This is quite sensible. Knowledge of personal circumstances and usage behavior may have moderated the effect of the information and the effect of the type of information on the likelihood judgment. Such an explanation is consistent with the lack of relevance of the group consensus information to the personal choices observed in Borgida and Insko's study.

Table 15.1 presents the cell means for the failure-rate, out-of-20 estimate. The average failure-rate estimate of the women who based their judgment on the case information ($\bar{x} = 5.2$) was 30% higher than the average estimate of the women who based their judgment on the statistical information ($\bar{x} = 4.1$). This does not necessarily mean that the individual women who were exposed to the statistical report gave more accurate estimates. There was generally a considerable amount of response

Table 15.1
Failure rate, out-of-20 call rates and call rates

		<u>Case-history information</u>		<u>Statistical summary information</u>	
Printed	Consequences described	5.74	(21)	5.84	(21)
	Consequences not described	5.80	(100)	6.59	(17)
Not printed	Consequences described	5.50	(14)	6.75	(28)
	Consequences not described	5.50	(100)	7.84	(28)
True Value		4.8		6.2	

variability between the subjects within the cells. The average within-cell standard deviation for the 20-point scale was 2.3. As another indication of response variability, 17% of the women judged that two or less refrigerator-freezers would fail and another 20% judged that six or more out-of-20 would fail. Bartlett's and Cochran's homogeneity of variance tests were undertaken (Singer 1971) to see if the statistical report treatment groups whose means were closer to the true failure-rate had smaller within-cell variances. They did not. This implies that while the mean failure-rate estimate of the women who used a statistical report was much closer to the true value, the variability of the individual responses of this group was just as great as the response variability of the women who read a case-history report.

As age and particularly education might have influenced the subjects' judgments, the question arises as to whether the information type effect was due to an unusual group of women in one of the treatment cells. This could occur even under random allocation of subjects to treatment conditions. The cell means for the women's education varied from 13.75 years up to 14.60 years. These differences were not statistically significant. The subjects in the case-history treatment were, however, slightly younger than the subjects in the summary information treatment ($F(1,748) = 4.11$, $p < 0.04$). As a precaution, a further analysis was undertaken with age and education added as covariates so as to remove any influence they might have had on the critical failure-rate judgment and recall-rate measure. With age and education added as covariates the statistical significance of the information type effect on failure-rate judgment ($p = 0.0005$) and recall-rate ($p < 0.0007$) became more extreme. This suggests that rather than age and education explaining the effect, the

distribution of these variables across the cells, but, if anything, masked the effect of information type.

Vividness as an Intervening Variable

It should be recalled that there was no difference in the rated vividness of the case-history and statistical reports and yet information type had a main effect on the failure-frequency judgments. To further check on whether the perceived vividness of the reports was driving this effect, the rated vividness of the report was introduced as a covariate and the analysis was rerun. If the vividness of the imagery created by the information was causing the effect and the vividness measure captured this construct then adding this measure as a covariate would remove the effect of information type on the failure-rate judgments. This did not happen. The information type effect on the failure-rate judgment was still significant [$F(1,740) = 13.4, p < 0.001$] as was its effect on the personalized failure likelihood judgment when rated vividness of the report was included with age as a covariate [$F(1,740) = 6.1, p < 0.025$]. The vividness measure was in fact only weakly correlated with the failure-rate estimate (0.54) and the failure likelihood estimate (0.12).

None of the treatments had any effect on the reliability and durability judgments which averaged close to eight on the 11 point scales. These two measures' modest correlations with the failure frequency judgments (ranging from 0.38 to 0.49) also suggest that reliability and durability perceptions stand in a much more complex relationship with failure-rate judgments than was expected.

Stage of the Recall Process

A possible explanation for the observed information type effect was that it was due to artificial(ly) memory recall mistakes rather than due to any bias at the judgment stage. This was answered by asking the recall-rate

a covariate in the *Salin2* analysis of the vector of failure-likeness, failure-rate, reliability and durability. The effect of information type on the vector was still significant ($p = 0.005$). At the univariate level, as before, only the out-of-20, failure-rate estimate was significantly influenced ($F(1,140) = 10.0$, $p < 0.002$). The likelihood estimate and the reliability and durability ratings were unaffected by any of the treatments or their interactions. The conclusion is that the observed information type effect on the subjects' failure-rate judgment was not due to the memory distortions as identified in the memory check questions.

In fact information type had a significant effect on the out-of-20 failure judgment and the computed recall-rate but the effects were in the opposite direction. The average recall-rate of the women who read the case report was 4.37 but their average out-of-20, failure-rate estimate was 5.05. On the other hand, the average recall-rate of the women who read the statistical report was 6.32 but their average out-of-20 failure-rate estimate was only 4.13. Assuming the women had based their failure-rate estimates on their recall of the facts then the women who used the case information overestimated by 34%. After adjusting for the memory effects the failure-rate estimate based on the case information was 61% higher than the failure-rate estimate based on the statistical information.

The assumption, however, that the two judgments were based on subjects' recall of the critical facts must be discarded because the within-cell correlations of the recall-rate with the failure-rate ($r = 0.140$) and failure-likeness judgments ($r = 0.112$) were extraordinarily low. Overall, only one third of the subjects gave an out-of-20, failure-rate consistent with their recall-rates. The women who used a case report were more consistent (40%) than the women who used the statistical report (28%).

to check on whether the women were just very bad at doing arithmetic transformations, such as multiplying one set of five by four or dividing 100 out of 500 by 25, the responses of the higher educated women were examined. The correlation between the recall-rate and failure-rate for the subjects who claimed some form of formal education past 12th grade and who used the case report was 0.24 and for the higher educated subjects who used the statistical report the correlation was only 0.02. Even the better educated subjects' judgments were not consistent with their recalled facts.

It could be that subjects pretty much ignored the information in the report and instead used prior beliefs about refrigerators to make their failure judgments. If they did this they ignored written and verbal instructions to base their judgments on the information provided in the report. But if indeed subjects did rely on prior beliefs, then information type would not have had an effect on judgments. The personalized failure-failure judgment was indeed hardly influenced by any of the treatments. This is consistent with the assumption that prior beliefs would not influence a personal judgment and explains the low correlation between the likelihood measure and the recalled failure-rate. However, the correlation between the judged out-of-20 failure-rate and the recalled failure-rate was almost the same. It should have been significantly higher if personal past experience particularly influenced the personalized judgments.

Despite the above judgment anomalies the subjects' confidence or sureness in their failure-rate, out-of-20 judgment was quite high. The overall mean score on the 1-8 rating confidence (sureness) scale was 5.8. None of the effects significantly influenced the women's confidence in their failure likelihood or failure-rate judgments. The women who read a case report rated the report less representative and sufficient than the

women who read a statistical report... The former also were strongly agreed that more women should have been interviewed. These concerns did not, however, translate into higher uncertainty with their specific judgments.

Conclusions

A number of previous studies have indicated that the vividness of case information makes it more impactful compared with the dullness of statistical information. This study disentangled information type and the enriching of information with some surprising results... Case information was found not to be, per se, more vivid or interesting and the two other treatments that did make the information more vivid did not produce the expected associated judgment bias...

Despite not being more vivid the case information did produce distorted judgments that were higher than the correct judgment and the judgments based on the summary, statistical information. The bias, however, did not occur in recalling the facts. It occurred in making the abstract judgment.

One explanation for the information type effect on expected failure-rate is that in generating such a judgment from a set of experiences, vignettes or scripts the negative cases are given disproportionate weighting. Transforming abstract, summary, statistical information into the required judgment scale may be less susceptible to such a risk bias. A further possibility is that case processing is less likely to produce extreme judgments. Again it has to be assumed that transformational judgments are less susceptible to such a leveling effect. These two explanations for the observed information type effect could be separated by a judgment study presenting case and statistical facts about an infrequent positive event.

The average failure-rate estimates of the women who read the failure report may have been more accurate because they were given the percentage of failures in the report and therefore only needed one transformation to derive their estimates out-of-10. This computational-difficulty theory, however, does not explain why the subjects in the case-history treatment had a better memory and a higher percentage of correct recalled-rates in failure-rate judgment transformations than the subjects in the summary, statistical treatment. Such a theory might have explained a significantly greater within-call judgment variability in the case condition, if it had occurred, but it does not explain why the case information produced an average overestimate of the failure-rate.

The women clearly had difficulty making expectancy judgments using case-history and statistical summary information. Although they generally agreed the information was easy to remember, only half of the women could recall important facts a few minutes after reading a simple, easy to read, easy to understand and highly believable report. Admittedly, the information was acquired incidentally. However, a considerable amount of consumer information is acquired incidentally. Two-thirds of the women then proceeded to come to a judgment inconsistent with their recalled facts, whether their facts were correct or not. Future research is needed to examine how incidentally acquired information can be made more memorable and to explain why expectancy judgments can be at odds with the relevant recalled facts. The latter question is a particularly important one to resolve given the role such expectancies are claimed to play in consumer decision making. The research confirms Nelson's contention (1974) that people are not fluent processors of abstract information (or for that matter concrete information) as the proponents of multivariate utility

and expectancy-value models might lead us believe. Just how the women came to make their abstract judgments remains an intriguing, unanswered question.

In future work extending the differential impact of case versus statistical information, verbal protocols could be obtained at the time of the judgment. They may help identify the basis for the judgments and reasons for any observed bias. However, the semantic encoding of "mind eye" imagery may result in only matches of the imagery being reported and the judgment and verbalization basis may also create conflicting concentration demands. Care would also have to be taken in the protocol instructions not to bias the subject either toward composing and expressing abstract beliefs or toward generating mental images. Researchers may be lulled into a false sense of security about the validity of verbal protocols as it is unlikely subjects will vocalize their evaluation apprehension concerns. Verbal protocol studies seldom, if ever, report subjects thinking out aloud their concerns about what they should say next.

Another interesting possibility is the monitoring of brainwave activity (see Krugman [8]). Evidence that imagery centers of the brain are activated by case-history information processing and abstract processing centers are stimulated by statistical information processing would support the contention that there are substantial differences between combination, script information processing and transformational, abstract information processing.

The practical implication of the findings for advertisers and policy makers is that information type may have to be added to the list of variables such as source, medium and order of presentation that can influence judgment. The excluding of information with descriptive detail had an effect in this experiment on judgments. More powerful, pictorial imagery or evocative descriptions might have produced the unreliability

bias observed in other research. Whether enriching statistical information with case-history detail, exemplifying the stereotypic case, will produce such a bias has still yet to be determined.

Finally, given that the information type effect in this study is confirmed in replications or extensions, its existence raises an interesting ethical issue. If distorted appearances can result from presenting the literal truth in certain information forms, does this provide grounds for objecting to the use of these types of information?

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APPENDIX A

SALAS ASSOCIATE, INC. CONDITIONS

APPENDIX B

SALES ASSOCIATE DISCUSSIONS

The sales associates explained that each customer has his or her idiosyncratic characteristics and that you cannot confidently talk about the shopping behavior of the young or highly educated, etcetera. This customer uniqueness underlines the importance of "qualifying" the customer which immediately follows the initial courtesies. Qualifying is a trade term, at least in Florida, which means discovering customer details such as size of family, previous brand owned and whether the previously owned appliance had "quit working" (mentioned by two of the sales people). More importantly, qualifying is aimed at discovering the desired size, color, features and budget limits. The judicious questioning combined with the information provided by customer appearance (dress, grooming, car, handshake, eye movements, accent, sleep patterns) gives the salesman a fairly clear understanding of the customer's circumstances. All of this is done to tailor his or her pitch to the customer.

Women were reported to undertake most of the shopping for white appliances (air-conditioners are an exception). The final choice is made by the wife, within budget limits. In order of importance in making the decision are size, features and appearance. The husband is mostly called on for "informatory shopping" after work or in the weekend with his wife. He lets her pick it out and says yes or no to the money. It seems the wife gets her say about size twice out of ten. This suggests that the husband exercises an important veto power over the dollars spent. Some of the sales associates suggested that for

brown goods such as stereos and TV. It is the man who does the shopping and the woman who exercises a veto veto. When men participate in the shopping for white appliances they are preoccupied with technical details that it was claimed women do not want to hear about. The different information requirements of spouses are such that associates feel they have to give separate sorts of pitches. This is sometimes difficult when both husband and wife are present. It was claimed that women do not ask so many questions and appear to take advice more readily. Men want to at least give the appearance of making up their own mind and are often very uncomfortable if a saleswoman is tactless enough to present herself as technically more knowledgeable than the customer.

Naturally enough, the sales associates see their role as very important in providing information and advice. It was claimed that a salesperson needs to know up to 50 times more about appliances than they overtell the customer. The difference is due to, (a) limited time spent talking to each customer if merchandise is to be moved, and (b) the risk of boring or confusing the customer with incidentals. The importance of not confusing the shopper was stressed. Providing too many technical details leads to confusion as does comparing three or more brands or models at once. The usual practice is that each model is fully described one at a time and the final choice is brought down to one of two models (this provides an interesting insight into buyer choice processes). Two things give the consumer a choice of 2 or 3 and never such a positive answer.

The associates went to some length to point out that they did not indulge in stand-over or hard-selling practices. They admitted however

that the customer seeking to purchase an appliance is very susceptible to lines such as "If you have an opportunity let me show you this". One important role that the salespeople claimed they play which has received scant mention in the literature is one of helping the customer actually make the decision and providing personal assurance that the right decision has been made. Apparently the consumer often seems to involve the sales associate in making the final decision. It is considered a way out - "they can then blame you for selling it to them rather than blaming themselves for buying it". In co-opting with the buyer at the decision stage some of the salespeople even went to the extent of adopting the customer's mannerisms and accents. "I can go give country - y'all come back one - when I need to". Up to 30 per cent of the business done by long established sales associates is based on personal referrals and repeat purchases. Distinction of such an 'outside sales force' is a source of considerable pride. A good salesperson can be expected to have to give after-sales service advice which highlights a problem mentioned by many of the associates - consumers do not read instruction booklets, let alone brochures and pamphlets: "When all else fails Americans will read instructions. They engage their mouth (calling to seek advice) before their brain", to be fair on the customer some salespeople indicated that the reading of brochures/labels by customers was a sign of a weak salesman. Some specialty stores provide buying guide pamphlets to consumers to help them make a sound decision and this is appreciated by the customer, even if only as a sign of the retailer's good intent.

Salespeople found it difficult to estimate customers' use of other sources of information. Newspaper sales advertising is very important

The sales volume generated by one day fourth of July or Labor Day Sales can be quite impressive overall. A sales buyer has less contact with a salesperson than usual because a salesperson's service depends on whether 'the floor is fast or slow'. It was claimed that the consumer has become more price conscious over the last decade. If they are not buying at a sales price, consumers will ask when it is going on sale. While they criticized other stores that use bait-and-switch the rule of leader-item sales pricing was acknowledged to be very important. The general selling practice is to first show a low-end model, then a top-end model ('now if you want to spend a couple of dollars more') and finally to zero in on the model they believe most suits the customer's needs and pocket. When asked they claimed that they always have the stripped down leader-item models in stock but it often takes a price increase to move them 'anyway, if you brought one of these refrigerators home to your wife she would let you stroke the head and shoulders'.

Two or three out of 10 customers appeared to have consulted friends or a relative, very few appear to consult Consumer Reports (estimates ranged from one in 10 to one in 100). The latter may be understated as consumers may not want to disclose such checking-up to the sales associate. Previous experience was considered very important - not so much for the brand loyalty it develops but for the product knowledge and fixed attitudes toward features and design. Higher brand loyalty for brown goods compared with white goods was claimed.

With respect to the search activities all customers were reported to be concerned about product reliability and as already mentioned getting a good buy. Most consumers appear to have little spare time and undertake minimal comparison shopping. If there is any exception it is the elderly

who take more time, either because they are "broke-up" about being ripped-off or because "they are thrilled at getting rid of the old machine and buying something new and shiny". Younger people perhaps take things much more for granted. The actual shopping period was reported to range from less than a day (refrigerator failure in the middle of summer) to several months (building a new house and choosing appliances at the architectural design stage).

APPENDIX B

CONSUMER FOCUS GROUP DISCUSSIONS

APPENDIX B

CONSUMER FOCUS GROUP DISCUSSIONS

The sessions revealed a wide diversity of shopping and search behavior. The major determinants of this variability appeared to be experience and circumstances. Households were reported to play a confirmatory role in most cases to avoid the "I told you so" but at least one husband took a more active interest in the machinery as he intended to repair it while the wife waited for it.

It was clear that the women relied a lot on experience. "None of my past mistakes are not to be believed". A mother's influence on early appliance purchase decisions, particularly the purchase of the first washer was frequently mentioned. Some stated that her influence on brand and feature choice was indirect in that they had learnt to use their mother's washing and this had influenced their later decisions. Laundromats were also mentioned as places where experience of other brands and models of washer was gained.

A number of the women who had recently moved to Gainesville reported "devouring the newspaper, reading anything and everything" this included looking for appliance sale ads and locating the stores on the map. Realtors had printed out and recommended local appliance stores to several of the new arrivals. One of these women stated that the stores she visited were chosen because of their external appearance and number of years in business which is regarded as a "good sign". Another recent woman had replaced a refrigerator acquired with the new home because it was too small. This suggests that some purchases made by recent movers are attributable to dissatisfaction with inherited appliances.

The women who had made a failure forced replacement purchase reported making the purchase quickly but even they were able to visit several stores in an hour or so and make every effort to catch a sale.

Space, store or brand loyalty was not evident although the reputation (and price) of Raytag and some other brands of washer and refrigerator was well known. Most believed that Sears's appliances were made by leading manufacturers although they were unsure of their identity. No clear initial search pattern emerged. Some first of all picked the store to shop, others decided on the brand and comparison shopped for it and several declared that they just looked for a sale. The consensus was that beforehand they had pretty much decided what size and features they wanted and that they shopped for the brand and the price. Price comparison shopping was reported to be quite difficult because few stores had exactly the same models.

One day sales specials were reported to have reduced the opportunity of consulting other information sources such as friends or Consumer Reports. A few women reported reading the sales ad after the purchase. In one group this prompted a discussion on obtaining a refund if the purchased model is advertised at a cheaper price within the next month. The justification was that the salesman should have tipped them off.

There were conflicting reports of the usefulness of the salesperson. Some preferred to be left alone and liked the idea of "browse bottom". Others had appreciated the advice and reassurance of the salesman. One housewife reported receiving check up calls ten days and three months after the purchase. "I appreciated the concern. I think its nice to know they care and you are not just a number". The store apparently

makes a further call a year after the purchase. Such a service was greeted with surprise but welcomed by the other women.

Friends were consulted to find out about local stores (their service and reputation) and their experience with particular product features (e.g. a side-by-side refrigerator-freezer). A buyer reported asking a repairman what brand of washer she should buy. "He got \$15 \$5 out of me for telling me it could not be repaired - I wanted to get something out of him". It did not occur to most of the participants to consult a serviceman and a number thought they might do it the next time they buy a major appliance.

Three of the thirteen claimed to have consulted Consumer Reports. Explanations or excuses given for not consulting this source were lack of time, inaccessibility ("the copy you want is always out on loan at the library") and a belief that it has become more technical over the years with too much emphasis on whether the product meets Federal regulations. The housewives generally admitted to not reading labels, brochures and instruction booklets very carefully. In fact several were interested to learn that refrigerators had stickers inside that indicated the usable space and recommended settings. Others criticized they had more needless service calls because they had not read the operating guide. In one such instance the housewife stopped the washer halfway through the cycle the first time she used the appliance and called the serviceman because she thought the tub was not draining. There was nothing wrong - it was just that the machine worked differently from the model she had used in the past.

The great majority of the women took a rather matter-of-fact approach to the shopping, "wanting to buy it and get it home quickly". They first

shopping for clothes much more enjoyable. One purchaser said that it would have been fun but they had bought so much in such a short time that shopping had become a chore rather than a pleasure. There was a common concern over reliability and after-sales service. Apparently one of the attractions of cash payment is that it is perceived to offer some recourse over and above a limited warranty.

APPENDIX C
INDIVIDUAL QUESTIONNAIRE AND
DOUBLE POST CARD QUESTIONNAIRE

DOUBLE POST CARD QUESTIONNAIRE

Dear Reader

100-0
000

At this time I need your help with a study on appliances you own. Please read the questions carefully and place your answers on the other side of this card. I would appreciate it if you could return the completed card to the next day or two. Many thanks for your help and cooperation.

Sincerely,

David Hall, Director

1. Please indicate which of the appliances below you **DO NOT** OWN. (Please circle 0-15 for each item which you **DO** own, please full on 1-15 please note this one of any type 0-1-15 refer to it please repeat for the rest please repeat and so on.)
2. When did you acquire this appliance? (Please circle 0-15)
3. How do you use this appliance most at home? (Please circle 0-15)
4. Where was the appliance acquired or purchased from? (Please circle 0-15)

BY PROVIDING ANSWERS TO THIS QUESTIONNAIRE YOU ARE AGREEING TO PARTICIPATE IN THE STUDY AND TO PROVIDE YOUR INFORMATION TO THE RESEARCHER.

Q.1	Q.2	Q.3	Q.4	Q.5	Q.6	Q.7	Q.8	Q.9	Q.10	Q.11	Q.12	Q.13	Q.14	Q.15
Refrigerator	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Freezer	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Washing Machine	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Dishwasher	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Stove	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Water Heater	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Garage	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Driveway	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Front Porch	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Back Porch	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Other	0	1	2	3	4	5	6	7	8	9	10	11	12	13

Name _____
Address _____
City _____ State _____ Zip _____

APPENDIX D
HAZARDOUS WASTE TREATMENT



BD54

11/78

Dear Member:

Recently you told us that you purchased a new refrigerator, clothes washer, clothes dryer, freezer, or microwave oven.

We are now enclosing a form which will allow you to share with us your recent shopping experiences for your new appliance.

Although this form may appear somewhat lengthy, nearly all of the questions can be answered by simply putting a check mark in the appropriate box. As you know there are never any "right or wrong" answers. All we are asking is for you to recall as accurately as possible how you felt and what you did when shopping for this new appliance.

As always, there is a postage paid envelope enclosed for you to return the completed form.

I hope by answering the questions you are able to recall the interesting experiences you encountered in the purchase of your new appliance.

Thank you so much for your assistance in this study. Your opinion will certainly be of great value to us and I do hope to hear from you soon.

Cordially,

Janet
Janet Hall, Director

1. Please check the top appliances purchased during the last 12 months that you've ordered on the market (e.g., please check the most expensive appliance). (Check one only)

A new refrigerator ☐ 1
 A new electric cooker ☐ 2
 A new electric dryer ☐ 3
 A new gas oven, 3 or 4-burning burner ☐ 4
 A new microwave oven ☐ 5
 Not working ☐ 6 PLEASE PRINT NAME

(For respondents that indicated their had ABOVE 5 THE MOST EXPENSIVE
 AND THE BEST TO IN THE LIST OF THE APPLIANCES)

2. Please indicate which of the following statements is most correct in describing your situation about? (Check one only)

I did the shopping recently for the above ☐ 1
 Other family members have say, but I did part of the shopping and made the choice ☐ 2
 My spouse and I jointly decided and made the choice together ☐ 3
 I have say but the spouse did part of the shopping and made the choice ☐ 4

3. If you indicated CHOICE 1-4 LAST 12 MO. PLEASE PRINT MODEL NUMBER (Example: 100-0000000000000000)

4. How long ago did you purchase the new appliance? months ago

5. Please check the statement below which best describes your purchase situation. (Check one only)

My spouse and I made the choice of a replacement oven ☐ 1
 My currently owned appliance was malfunctioning in need of more repairs ☐ 2
 My currently owned appliance was making noise ☐ 3
 I was going to replace for the first time ☐ 4
 My currently owned appliance had failed and was not worth repairing ☐ 5
 Other (Please specify) 6

6. If you replaced your appliance as a result of a replacement, please check how far this cost was from **REPLACEMENT**. (Check 1 value ☐ 1-1 20-40 value ☐ 2 40-60 value ☐ 3 60 value or more ☐ 4

7. If you were replacing a still operating appliance, what was the previous appliance value? (If you did not do the purchase a replacement appliance, if both you select)

Wanted to get appliance ☐ 1
 Wanted to save (bought) ☐ 2
 Wanted more extended warranty ☐ 3
 Was afraid my 1 value or buying ☐ 4
 Wanted to replace oven, rather than first repair ☐ 5
 Could be seen before ☐ 6
 Any other reason ☐ 7

27. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7
28. If $\frac{1}{x} + \frac{1}{y} = \frac{1}{z}$, then $\frac{xy}{x+y} = \square$ (A) $\frac{1}{z}$ (B) $\frac{1}{x}$ (C) $\frac{1}{y}$ (D) $\frac{1}{z}$
29. Which of the following is a prime number? (A) 1 (B) 2 (C) 3 (D) 4 (E) 5 (F) 6 (G) 7 (H) 8 (I) 9 (J) 10
30. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
31. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
32. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
33. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
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35. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
36. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
37. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
38. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
39. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
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41. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
42. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
43. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
44. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
45. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
46. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
47. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
48. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
49. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1
50. The number of ways in which 10 persons can be seated at a round table is \square (A) 10 (B) 9 (C) 8 (D) 7 (E) 6 (F) 5 (G) 4 (H) 3 (I) 2 (J) 1

20. How many different brands of sunglasses do you have on hand right now?

21. Did you buy the best sunglasses that you thought you would buy when you last visited shopping?
Yes ☐ 1-3 No ☐ 4-5

22. Did you buy the worst sunglasses that you thought you would buy when you last visited shopping?
Yes ☐ 1-3 No ☐ 4-5

23. Did you buy the most brand of sunglasses that you had previously bought (that is, that was the one you had preferred)?
Yes ☐ 1-3 No ☐ 4-5 Not applicable ☐ 6

24. Did you buy your new sunglasses mostly out of a specific motivation?
Yes ☐ 1-3 No ☐ 4-5

25. Did you experience fewer pains (both the relevant and irrelevant ones) than?
Yes ☐ 1-3 No ☐ 4-5

26. In your opinion, what differences could occur the different brands in terms of:

	A. Superior Performance	A. Not at all Superior	Same Performance	Very Little Performance	Worst Performance
Price	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5
Features	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5
Style	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5
Availability	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5
Long-term costs	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5
Overall costs	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5

27. There are a number of good reasons why people may shopping and make a purchase. Which of the following best describes why you bought sunglasses?
I found exactly what I wanted ☐ 1-3 I did not consider the benefits of better shopping until the effort to find a better alternative was too great ☐ 4-5

28. How satisfied are you with your new sunglasses?

Very satisfied	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5
Satisfied	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5
Not too satisfied or dissatisfied	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5
Dissatisfied	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5
Very dissatisfied	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5	<input type="checkbox"/> 1-3 <input type="checkbox"/> 4-5

(1) RESIDENCE

Item	Code
None Reported	-1
Atlanta Atlanta	-2
East North Central	-3
West North Central	-4
South Atlantic	-5
East South Central	-6
West South Central	-7
Mountain	-8
Pacific	-9

(2) MARITAL STATUS

Item	Code
1,000,000 and over	-1
1,000,000 - 4,999,999	-2
1,000,000 - 1,999,999	-3
500,000 - 999,999	-4
100,000 - 499,999	-5
20,000 - 99,999	-6
Other (Other)	-7
None	-8

(3) FAMILY INCOME (Current)

Item	Code
Under \$2,000	-1
\$2,000 - \$4,999	-2
\$50,000 - \$99,999	-3
\$100,000 - \$199,999	-4
\$200,000 - \$499,999	-5
\$500,000 and over	-6

(4) AGE OF WIFE (Current)

Item	Code
Under 20	-1
20 - 29	-2
30 - 39	-3
40 - 49	-4
50 - 59	-5
60 - 69	-6
70 - 79	-7
80 - 89	-8
90 and over	-9

(5) EDUCATION OF WIFE (Current)

Item	Code
No college	-1
College	-2

(6) SCHOOLS OF HIS/HERS

Item	Code
Elementary	-1
High school	-2
College	-3

(7) EMPLOYMENT OF HIS/HERS

Item	Code
Full time	-1
Part time	-2
Not reported/retired or sick	-3
Not homebased/retired	-4

(8) OCCUPATION OF HIS/HERS

Item	Code
Unskilled/unskilled/unskilled/unskilled	-1
Managerial/Professional/Professional	-2
Chief/Professional/unskilled	-3
Other unskilled	-4
Confidential/Personal/Unskilled/unskilled	-5
Operator/Unskilled/unskilled	-6
Active/Unskilled/unskilled	-7
Service/unskilled	-8
Farmer/farm manager	-9
Post/Manager/Personal	-10
Unskilled	-11
Not reported/unemployed/Unskilled/unskilled	-12

(9) YEAR OF BIRTH (Current)

Item	Code
From 1910 to unskilled/unskilled	1 ends
From 1910 to unskilled/unskilled	20
From 1910 to unskilled/unskilled	30
From 1910 to unskilled/unskilled	40

EXHIBIT 10-10

Item	Cash
Under \$4,000	+0
\$4,000 – \$4,999	+0
\$5,000 – \$5,999	+0
\$6,000 – \$6,999	+0
\$7,000 – \$7,999	+0
\$8,000 – \$8,999	+0
\$9,000 – \$9,999	+0
\$10,000 – \$10,999	+0
\$11,000 – \$11,999	+0
\$12,000 – \$12,999	+0
\$13,000 – \$13,999	+0
\$14,000 – \$14,999	+0
\$15,000 – \$15,999	+0
\$16,000 – \$16,999	+0
\$17,000 – \$17,999	+0
\$18,000 – \$18,999	+0
\$19,000 and above	+0

EXHIBIT 10-11

Item	Cash
American Indian	+1
Black	+0
Caucasian	+0
Spanish/Hispanic American	+0
Native	+0
Other	+0

EXHIBIT 10-12

Item	Cash
One-family/semi-detached	+0
Two-family/semi-detached	+0
Two-family	+0
Three or more family/semi-detached	+0
Mobile home/trailer	+0

EXHIBIT 10-13

Item	Cash
Own	+1
Rent/lease	+0

EXHIBIT 10-14

Item	Cash
Cooperative	+1
Co-operative	+0
Reserve	+0

EXHIBIT 10-15

Item	Cash
Married	+0
Single	+0
Widowed	+0
Widow	+0
Separated	+0

EXHIBIT 10-16

Item	Cash
Own manager own	+1
Own trade	+0
Own trade own and trade	+0
Do not own own or trade	+0

COPIING INDEX

```

*****
HOW ARE THESE DATA STORED WITHIN THE DATA FILE?
IS THERE ANOTHER SYSTEM FOR STORING INFORMATION? (YES/NO)
FILE NAME FOR THE DATA FILE IS:

```

```

*****
NAME OF THE DATA FILE:
  FILE NAME
  DATA FILE NAME
  FILE NAME
  FILE

```

```

*****
HOW ARE THE DATA OF THE SYSTEMS AND THE DATA CONTROL INFORMATION
AND THE DATA CONTROL INFORMATION FILE STORED?

```

```

A. NAME OF THE DATA FILE:
  FILE NAME
  DATA FILE NAME
  FILE NAME
  FILE

```

```

*****
COPIING INDEX

```

NAME	FILE	DESCRIPTION
1	1	1. NAME OF THE DATA FILE
2	2	2. NAME OF THE DATA FILE
3	3	3. NAME OF THE DATA FILE
4	4	4. NAME OF THE DATA FILE
5	5	5. NAME OF THE DATA FILE
6	6	6. NAME OF THE DATA FILE
7	7	7. NAME OF THE DATA FILE
8	8	8. NAME OF THE DATA FILE
9	9	9. NAME OF THE DATA FILE
10	10	10. NAME OF THE DATA FILE
11	11	11. NAME OF THE DATA FILE
12	12	12. NAME OF THE DATA FILE
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89	89	89. NAME OF THE DATA FILE
90	90	90. NAME OF THE DATA FILE
91	91	91. NAME OF THE DATA FILE
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94	94	94. NAME OF THE DATA FILE
95	95	95. NAME OF THE DATA FILE
96	96	96. NAME OF THE DATA FILE
97	97	97. NAME OF THE DATA FILE
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99	99	99. NAME OF THE DATA FILE
100	100	100. NAME OF THE DATA FILE

APPENDIX F
TYPE OF APPLIANCE AND PURCHASE SITUATION

Product	Purchase Situation						
	Set/ing up first time	Replacement/ more under 20 million	Replacement/ More than million plus	Appliance purchase	Appliance (working) repair/ Replaces	Appliance (working) Replaces	Other purchase
Refrigerator/ freezer	2.24	22.20	11.40	19.75	20.25	14.21	8.20
Refrigerator	4.4	16.8	7.2	43.8	14.8	4.2	6.4
	3.4	18.2	8.4	26.2	13.2	12.1	7.4
Reason for replacing old/1 working appliance							
Refrigerator/ freezer	Refrigerator not functioning	Refrigerator not functioning	Refrigerator not functioning	Refrigerator not functioning	Refrigerator not functioning	Refrigerator not functioning	Refrigerator not functioning
	21.2	14.4	1.2	2.1	14.4	14.4	14.4
	21.2	14.4	1.2	2.1	14.4	14.4	14.4

APPENDIX 4

FACTOR MODEL ANALYSIS OF INFORMATION SOURCE USE

(Effects of experience, situation and product on number of different sources considered)

Experience	Situation	Product	Group mean
None	None	Refrigeration	4.32
		Laundry	3.29
	Failure	Refrigeration	3.47
		Laundry	3.96
	Other	Refrigeration	4.30
		Laundry	3.27
Some	None	Refrigeration	3.54
		Laundry	3.54
	Failure	Refrigeration	2.69
		Laundry	2.70
	Other	Refrigeration	3.29
		Laundry	3.47

Analysis of Variance

Source	S.S.	d.f.	M.S.	F.	F(2) prob- ability
Mean	4252.45	1	4252.45	1619.24	< .0005
Experience (P)	26.32	1	26.32	4.29	0.0435
Situation (S)	13.78	2	6.89	2.74	0.1165
Product (Q)	6.78	1	6.78	0.87	0.3528
P x S	3.45	2	1.72	0.44	0.6448
P x Q	2.78	1	2.78	0.37	0.5433
S x Q	25.78	2	12.89	5.11	0.0456
P x S x Q	29.42	2	14.71	5.84	0.0057
Error	2176.87	583	3.75		

Effects of experience, situation and product on number of different sources consulted

Experience	Situation	Product	Group Mean
None	None	Refrigeration	2.29
		Laundry	2.71
	Failure	Refrigeration	1.93
		Laundry	2.17
	Other	Refrigeration	2.19
		Laundry	1.81
Some	None	Refrigeration	2.32
		Laundry	2.58
	Failure	Refrigeration	2.21
		Laundry	2.78
	Other	Refrigeration	2.54
		Laundry	2.47

Analysis of Variance

Source	S.S.	d.f.	M.S.	F	Total probability
None	2545.82	1	2545.82	842.09	0.0000
Experience (E)	5.42	1	5.42	1.81	0.1408
Situation (S)	4.58	2	2.29	1.76	0.2040
Product (P)	0.84	1	0.84	0.27	0.6120
P x S	0.34	2	0.17	1.41	0.2442
P x E	2.32	1	2.32	1.81	0.2161
S x E	88.45	2	44.22	3.30	0.0279
P x S x E	32.47	2	16.23	5.49	0.0043
Error	1942.21	323	6.01		

Effects of experience, situation and product on number of different commercial sources consulted

Experience	Situation	Product	Group Mean
None	None	Refrigeration	2.38
		Laundry	1.83
	Partials	Refrigeration	1.73
		Laundry	2.29
	Other	Refrigeration	2.48
		Laundry	1.38
Some	None	Refrigeration	1.78
		Laundry	1.39
	Partials	Refrigeration	1.87
		Laundry	1.88
	Other	Refrigeration	1.98
		Laundry	2.19

Analysis of Variance

Source	S.S.	d.f.	M.S.	F	Tail probability
None	1488.34	1	1488.34	791.43	0.0000
Experience (P)	2.34	1	2.34	1.19	0.2768
Situation (S)	0.41	2	0.20	0.10	0.9014
Product (O)	2.89	1	2.89	1.56	0.2080
P x S	4.82	2	2.41	1.27	0.3718
S x O	7.89	1	7.89	4.13	0.0389
P x S x O	16.55	2	8.28	4.32	0.1540
Error	1054.39	523	2.01		0.0157

Effects of experience, situation and product on number of different independent sources recalled

Experience	Situation	Product	Group Mean
None	None	Refrigeration	0.84
		Laundry	0.81
	Failure	Refrigeration	0.80
		Laundry	0.79
	Other	Refrigeration	0.72
		Laundry	0.69
Some	None	Refrigeration	0.92
		Laundry	0.77
	Failure	Refrigeration	0.43
		Laundry	0.59
	Other	Refrigeration	0.58
		Laundry	0.55

Analysis of Variance

Source	S.S.	d.f.	M.S.	F	Total probability
Mean	107.76	1	107.76	331.12	0.0000
Experience (7)	0.21	1	0.21	1.58	0.0094
Situation (5)	0.55	2	0.28	4.22	0.0001
Product (10)	1.37	1	1.37	3.52	0.0613
P x E	0.08	2	0.40	1.08	0.3428
P x S	0.00	1	0.00	0.00	0.9979
S x E	0.43	2	0.20	2.53	0.0949
P x S x E	0.00	2	0.41	3.13	0.0427
Error	233.58	543	0.43		

Effects of experience, situation and product on number of different personal sources consulted

<i>Analysis of Variance</i>					
<u>Source</u>	<u>S.S.</u>	<u>d.f.</u>	<u>M.S.</u>	<u>F</u>	<u>tail probability</u>
Mean	485.20	1	485.20	723.47	0.0000
Experience (2)	0.02	1	0.02	1.02	0.3662
Situation (10)	1.40	2	0.69	1.05	0.3662
Product (10)	0.01	1	0.01	1.07	0.3430
P x S	1.14	2	0.58	0.87	0.4381
P x S	0.02	1	0.02	0.03	0.8630
S x S	0.26	2	1.48	0.03	0.9813
P x S x S	0.06	2	1.07	1.02	0.3446
Error	247.97	603	0.41		

Effects of experience, situation and product on number of different interpersonal words utilised.

Experience	Situation	Product	Group Mean
None	None	Refrigeration	2.00
		Laundry	1.40
	Failure	Refrigeration	2.00
		Laundry	1.40
	Other	Refrigeration	2.00
		Laundry	1.00
Some	None	Refrigeration	1.40
		Laundry	1.37
	Failure	Refrigeration	1.13
		Laundry	1.00
	Other	Refrigeration	1.00
		Laundry	1.75

Analysis of Variance

Source	S.S.	d.f.	M.S.	F.	Full probability
None	103.07	1	103.07	342.00	0.0000
Experience (P)	8.40	1	8.40	8.88	0.0076
Situation (S)	2.38	2	1.19	1.48	0.2091
Product (R)	8.40	1	8.40	8.88	0.0076
P x S	1.52	2	0.77	0.99	0.3704
P x R	1.38	1	1.38	1.39	0.1834
S x R	1.00	2	0.50	0.60	0.6750
P x S x R	8.00	2	4.00	4.41	0.0264
Error	402.88	603	0.77		

Effects of experience, situation and product on number of different media advertising agencies consulted

<u>Analysis of Variance</u>					
Source	S.S.	d.f.	M.S.	F	Tail probability
Mean	150.38	1	150.38	226.32	0.0000
Experience (P)	0.48	1	0.48	0.71	0.4000
Situation (S)	3.57	2	1.79	2.75	0.0827
Product (Q)	0.26	1	0.26	0.40	0.5284
P x S	0.28	2	0.14	0.20	0.7426
P x Q	0.63	1	0.63	0.95	0.3834
S x Q	1.47	2	0.73	1.10	0.3237
P x S x Q	2.45	2	1.21	1.83	0.1590
Error	226.41	603	0.38		

Effects of experience, situation and product on number of different non advertising written sources consulted

Experience	Situation	Product	Score Mean
None	None	Refrigeration	1.30
		Laundry	0.76
	Failure	Refrigeration	0.63
		Laundry	1.00
Some	None	Refrigeration	1.13
		Laundry	0.57
	Failure	Refrigeration	0.87
		Laundry	0.72
	Other	Refrigeration	0.89
		Laundry	0.83
	None	Refrigeration	0.76
		Laundry	1.07

Analysis of Variance

Source	S.S.	d.f.	M.S.	F	Tab. prob. 0.01/0.05
Mean	112.76	1	112.76	422.66	0.0000
Experience (P)	2.14	1	2.14	1.12	0.2928
Situation (S)	11.92	2	5.96	2.26	0.0519
Product (O)	1.30	1	1.30	0.48	0.4177
P x S	3.44	2	1.72	0.69	0.4992
P x O	3.81	1	3.81	1.43	0.1772
S x O	8.63	2	4.32	2.22	0.1180
P x S x O	12.76	2	6.38	2.47	0.0861
Error	108.26	529	1.62		

Effects of experience, situation and product on number of different sources rated useful

Experience	Situation	Product	Group Mean
None	None	Self-generation	2.48
		Library	2.29
	Failure	Self-generation	1.28
		Library	2.29
	Other	Self-generation	2.58
		Library	1.36
Some	None	Self-generation	1.88
		Library	2.85
	Failure	Self-generation	1.78
		Library	1.83
	Other	Self-generation	2.81
		Library	2.88

Analysis of Variance

Source	S.S.	d.f.	M.S.	F	Fail prob-ability
None	1509.58	1	1509.58	789.72	0.0000
Experience (P)	1.85	1	1.85	0.50	0.4761
Situation (S)	50.45	2	25.23	2.57	0.0778
Product (O)	0.84	1	0.84	0.82	0.3683
P x S	6.33	2	3.17	1.29	0.2794
P x O	0.88	1	0.88	0.32	0.5728
S x O	88.40	2	44.20	4.55	0.0078
P x S x O	18.83	2	9.42	4.52	0.0113
Error	1983.76	623	3.19		

APPENDIX B
PRICE UNCERTAINTY AND COMPARISON OF SOURCES

Shoppers who consulted the source and found it useful

Uncertainty over features availability	Newspaper ad	Salesperson	Friend or relative
Very sure	35.93	38.40	37.25
Somewhat sure	38.4	50.4	33.8
Not sure	25.6	11.2	28.9
	$p = 0.7167$	$p = 0.0004$	$p = 0.2366$
Uncertainty over brand and model performance			
Very sure	25.11	38.55	33.55
Somewhat sure	33.8	49.5	35.7
Not sure	32.5	11.9	29.1
	$p = 0.0402$	$p = 0.0308$	$p = 0.0063$
Uncertainty over decision criterion			
Very sure	33.95	42.65	30.85
Somewhat sure	31.7	58.2	33.2
Not sure	23.4	21.6	25.7
	$p = 0.2573$	$p = 0.3485$	$p = 0.7905$
Uncertainty over brand choice			
Very sure	21.15	41.85	34.35
Somewhat sure	34.8	47.2	34.8
Not sure	25.7	21.5	25.7
	$p = 0.0004$	$p = 0.0013$	$p = 0.1885$
Uncertainty over model choice			
Very sure	23.25	41.85	33.95
Somewhat sure	33.1	47.2	35.1
Not sure	36.8	29.1	26.7
	$p = 0.0315$	$p = 0.0004$	$p = 0.0136$

APPENDIX 2

EFFECTS OF PERCEIVED TIME-PRESSURE ON MOTIVATIONS AND INTERESTS

Agreement with statement:			
Wanted to enjoy the shopping			
Perceived purchase time pressure	Strongly agree	Somewhat agree	Do not agree
Slight	4.25	54.90	40.85
Moderate	5.5	57.4	37.0
Great	4.8	55.8	39.2
p=0.0942			
Agreement with statement:			
Wanted to spend as little time as possible			
Perceived purchase time pressure	Strongly agree	Somewhat agree	Neutral/dis-agree
Slight	52.05	28.05	19.90
Moderate	42.4	40.7	16.9
Great	48.5	33.3	18.2
p=0.0162			
Agreement with statement:			
Made a real effort to find out what might be wrong or go wrong with the models			
Perceived purchase time pressure	Strongly agree	Somewhat agree	Neutral/dis-agree
Slight	27.45	44.85	27.65
Moderate	25.2	39.4	34.9
Great	25.8	44.2	29.9
p=0.7260			
Agreement with statement:			
Wanted to obtain the latest technology			
Time pressure	Strongly agree	Somewhat agree	Do not agree
Slight	38.75	35.35	25.85
Moderate	33.0	38.4	28.6
Great	35.4	42.2	22.2
p=0.0042			

APPENDIX 2

SCOPE OF SEARCH BY TYPE OF STORE SHOPPED

Purchase made at	Number of brands consulted					
	One	Two	Three	Four	Five +	
Appliance store	265	295	295	115	45	
Seam, kiosk or Footage	165	235	245	125	45	
Other type of store	255	295	295	115	45	
Overall	305	275	295	115	45	p=0.0007

Purchase made at	Number of stores shopped					
	One	Two	Three	Four	Five +	
Appliance store	165	215	205	125	125	
Seam, kiosk or Footage	35	35	35	15	5	
Other type of store	35	11	15	15	15	
	165	205	205	145	115	p=0.0007

Purchase made at	Number of commercial sources consulted						
	None	One	Two	Three	Four	Five +	
Appliance store	195	205	235	195	45	55	
Seam, kiosk or Footage	15	25	35	35	5	5	
Other type of store	25	25	25	15	5	5	
	145	195	215	195	75	65	p=0.0006

Purchase made at	Number of independent sources consulted			
	None	One	Two	
Appliance store	475	415	115	
Seam, kiosk or Footage	35	35	5	
Other type of store	45	45	15	
	505	395	115	p=0.0007

Appendix B
 SCHOLING QUESTIONNAIRE RESPONSES
 Table 1

Standard Sample Appliance Ownership and Acquisition Statistics

<u>Appliance</u>	<u>Household Ownership</u>	<u>Acquired New</u>	<u>Bought or traded in/ wholesa- lery market</u>	<u>Came with house</u>	<u>Gift from other than household member</u>
Refrigerator	95	85	84	11	5
Washer	31	30	30	4	4
Color TV	85	81	82	0	8
Sewing machine	43	43	44	0	16
Kitchen range	88	77	62	33	3
Dryer	61	68	60	5	5
Stoves (RPTD units)	70	60	69	0	11
Freezer	66	61	60	3	8
Dishwasher	49	43	44	31	5
Room air conditioner	41	75	61	10	5
Microwave oven	17	36	45	0	18
VCR recorder	5	15	14	0	6

n = 1,311

Table 2

Custom, Recast River Sample Appliances, Ownership and Acquisition Statistics

Appliance	Household Ownership	Acquired New	Repaired or re-terri- fied house- wife recast	Given with house	Gift from other than household member
Refrigerator	882	783	743	205	45
Washer	41	44	46	8	5
Color TV	79	93	92	0	8
Sewing machine	75	81	83	0	12
Kitchen Range	76	45	46	51	3
Dryer	72	83	86	0	3
Stanno AM/FM radio	45	53	55	3	9
Freezer	42	78	85	3	8
Dishwasher	42	71	42	54	4
Aqua A/c	38	64	43	27	30
Microwave oven	28	35	42	4	13
Video recorder	4	49	50	0	10
			90	0	10

n = 563

Changed address in last 12 months

Yes 458

(81%)

No 22

No 7

Table 2
Standard Screening Survey: Purchase Circumstances

APPL. MODEL	Spouse initiated purchase	Spouse initiated purchase	Spouse initiated purchase	Spouse initiated purchase	Spouse initiated purchase	Spouse initiated purchase	
Refrigerator	143	385	345	165	25	75	2,352
Freezer	66	12	7	4	8	3	1,110
Clothes washer	25	45	17	11	8	3	2,348
Clothes dryer	44	28	14	11	8	2	2,048
Dish washer	57	21	30	18	8	2	895
Stitcher range (oven)	17	27	38	17	1	3	1,365
Microwave oven	88	4	4	3	0	3	388
Air conditioner	61	15	8	6	11	2	295
Color TV	35	30	25	3	8	2	2,123
VCR recorder	20	13	6	6	3	2	70
Stereo AM/FM Radio	89	8	18	2	7	3	1,748
Sewing machine	46	14	24	3	2	2	1,327

APPENDIX L

LATENT FACTOR ANALYSES OF NEEDWARE OVER IMPURS RESPONSES

Table 1

Factor Analysis of Needware-over Shoppers' Uncertainty

Correlation Matrix					
Issues about:					
Features					
Performances	0.34				
Considerations	0.47	0.46			
Brand choice	0.26	0.40	0.43		
Model choice	0.47	0.70	0.35	0.48	
Stores to shop	0.30	0.22	0.37	0.43	0.43
Rotation-related factor loadings pattern: two factors					
	Factor 1 Product Uncertainty	Factor 2 Store Uncertainty	Communalities		
Issues about:					
Features available	0.83	0.21	0.74		
Performance of brands & models	0.80	0.05	0.64		
Most important considerations	0.36	0.72	0.62		
What brand to choose	0.44	0.54	0.39		
What model to choose	0.36	0.44	0.27		
Which stores to shop at	0.12	0.74	0.55		
Variation in the responses that is explained by the factors					
	140	168	Total = 308		

Table 2
Factor Analysis of Microcomputer Shoppers' Motivations

Correlation Matrix					
	Learn	EI	Enjoy	Techn	EI
Motivations & Interests:					
Wanted to learn					
Wanted to find faults (EI)	0.43				
Wanted to enjoy	0.58	0.36			
Interested in technical details	0.18	0.45	0.30		
Wanted to obtain newest (EI)	0.23	0.26	0.25	0.34	
Wanted to spend little time	-0.27	-0.08	-0.11	-0.08	-0.16
Varimax rotated factor loadings pattern: two factors					
	Factor 1 Enjoy Shopping	Factor 2 Wield Risks	Communality		
Agreement with the following					
Wanted to learn new things	0.73	0.30	0.63		
Wanted to find faults (EI)	0.30	0.70	0.60		
Wanted to enjoy shopping	0.82	0.26	0.74		
Had a technical interest	0.00	0.80	0.68		
Wanted to obtain newest (EI)	0.08	0.48	0.47		
Wanted to spend little time	-0.24	0.10	0.07		
Variances in the responses that is explained by the factors					
	37%	30%	Total = 67%		

Continued

Table 2 - continued

Various related factor loadings pattern - three factors				
	Factor 1 Learn	Factor 2 Obtain Review	Factor 3 Do It Quickly	Communality
Agreement with the following:				
wanted to learn new things	0.57	0.06	-0.26	0.73
tried to find facts (82)	0.76	0.29	-0.23	0.77
wanted to enjoy shopping	0.72	0.09	-0.47	0.75
had a technical interest	-0.26	0.39	0.71	0.76
wanted to obtain news (82)	0.65	0.27	-0.37	0.73
wanted to spend little time	-0.75	-0.06	0.90	0.83
Variance is the response that is explained by the factors				
	306	286	326 Total = 918	

Table 3

Factor Analysis of Microwave-oven Shoppers' Perceived Brand Differences

Correlation Matrix					
Extent of difference					
Price					
Features	0.30				
Style	0.10	0.49			
Durability	-0.06	0.27	0.48		
Operating costs	0.07	0.17	0.04	0.52	
Overall	0.09	0.40	0.43	0.41	0.43
Varimax rotated factor loadings pattern: three factors					
	Factor 1 Performance	Factor 2 Features	Factor 3 Price	Communalities	
In terms of					
Price	0.01	0.10	0.98	0.98	
Features	0.12	0.96	0.11	0.93	
Style	0.39	0.66	0.00	0.69	
Durability	0.29	0.19	-0.19	0.40	
Operating costs	0.00	0.00	0.10	0.10	
Overall	0.30	0.28	0.07	0.73	
Variation in the responses that is explained by the factors					
	40%	22%	17%	Total = 80%	

Table 4

Factor Analysis of Microwave-oven Shopping Search Activity

Correlation Matrix			
	CT	AS	ST
Consideration time (days)			
# brands considered	0.30		
Shopping time (hours)	0.25	0.48	
# stores visited	0.30	0.30	0.64
Thermax related factor loadings pattern: two factors			
	Factor 1 (Shopping Scope)	Factor 2 (Time Log)	Communality
Reported behavior:			
Consideration time (days)	0.12	0.97	0.98
# brands initially considered	0.48	0.26	0.48
Shopping time (hours)	0.48	0.08	0.24
# stores visited	0.48	0.05	0.24
Partition to the responses that is explained by the factors	50%	27%	Total = 77%

Table 5

Factor Analyses of Microwave-oven Shoppers' Search Activity

	Correlation Matrix				
	CT	FB	ST	AV	CS
Consideration time (days)					
F brands considered	0.30				
Shopping time (hours)	0.23	0.45			
F stores visited	0.29	0.30	0.44		
F commercial inf. sources	0.38	0.42	0.50	0.44	
F independent inf. sources	0.29	0.29	0.40	0.44	0.37
Serious-related factor loadings pattern					
	Two factors				
	Factor 1 Search Scope	Factor 2 Time Log	Communalities		
Reported behavior					
Consideration time (days)	0.35	0.35	0.50		
F brands considered	0.63	0.33	0.61		
Shopping time (hours)	0.84	0.26	0.72		
F stores visited	0.67	0.02	0.79		
F commercial inf. sources	0.83	0.42	0.58		
F independent inf. sources	0.60	0.23	0.40		
Variation in the responses that is explained by the factors					
	44%	21%	Total = 65%		

Table 8 - continued

Variable related factor loadings pattern: three factors

	Factor 1 Mapping Scope	Factor 2 Independent Information	Factor 3 Time Use	Communality
Reported behavior:				
Consideration time (days)	0.15	0.14	0.64	0.62
# brands considered	0.04	-0.87	0.25	0.77
Shopping time (hours)	0.71	0.46	-0.02	0.70
# stores visited	0.70	0.45	-0.07	0.70
# commercial ref. sources	0.48	0.32	0.38	0.47
# independent ref. sources	0.14	0.91	0.21	0.89
Variation in the responses that is explained by the factors				
	50%	85%	18%	Total = 78%

SCENARIO EXPERIMENT MEASUREMENT INSTRUMENT

Welcome to this part of the research project. In the following pages are questions which we ask you to answer as if you were in the situation described below.

Situation Description

You have just moved to a new city. The city stores are unfamiliar to you, although you know that there will be the usual types of stores and shopping centers found everywhere and locally owned stores you know nothing about.

You miss your old friends but have met a few new people who seem quite friendly.

The residence that you have moved into does have a clothes washer which is about 10 years old. It still works but it is noisy and does not have all the washing cycles you would like. You decide you would like to buy a new clothes washer.

You can take your time in making the replacement purchase.

Please spend several minutes reading and re-reading the situation description and try to put yourself into that situation. Think about your past moving experiences if it helps you to imagine such a situation.

At the top of each page of questions this same situation is described. Whenever you are unsure that you are answering the questions as if you were in the situation described please re-read the description and then answer the questions.

Please remember that there are no so-called "right" or "wrong" answers. Once you have completed one page please turn to the next page and do not look back at your answers on earlier pages.

We hope that you find it an interesting little exercise. Please do not turn the page until we have explained how to respond to the questions.

Directions

Read each of the following descriptions carefully. After you have thought about going to the situation, please answer the questions at the end of each of the situation scenarios.

You have just moved to a new city. The city seems very different from the city where you grew. You think it is so different from the city where you grew that you are thinking about moving back to the city where you grew.

You have just moved to a new city. The city seems very different from the city where you grew.

You have just moved to a new city. The city seems very different from the city where you grew. You are thinking about moving back to the city where you grew. You are thinking about moving back to the city where you grew. You are thinking about moving back to the city where you grew.

In purchasing a vehicle make an the features and conditions described above.

I would just _____

The first thing I would do on that situation would be to _____

The next thing I would do would be to _____

Please note that you would need to be the person who would call for the situation before making your purchase.

Instructions

Please read the following descriptions carefully. After you have thought about being in the situation please answer the question as if you were to be a typical person that

The name you assign to it is very easy. The city where you are living is for you, although you know that there will be the usual types of houses and other big houses. Most everywhere the building material is the same as the building material.

The city is your old friend but now it is the new people who come quite friendly.

The weather that you have heard that there is a winter weather which is about 70 years old. It will be like you to be very and that will help of the winter weather you will

from the winter that you have. It is to be a new winter.

You can take your time in writing the material printed.

In reading information and answering for an answering thing to change a new condition that is like better than nothing to your future if you are needed.

Please read the following list of activities that you can do when you have been told a new building way. It is to be for your time following that is good information as it is one of the following.

Please read this to see a number of ways or quality things or quality if you really need that to be used in this or other in that there would be the time also.

The condition I would like would be to

		Scale										
		1 2 3 4 5 6 7 8 9 10										
Take to a meeting	extremely unlikely	1	2	3	4	5	6	7	8	9	10	extremely likely
Learn the local language for other use	extremely unlikely	1	2	3	4	5	6	7	8	9	10	extremely likely
Take up a business report or article	extremely unlikely	1	2	3	4	5	6	7	8	9	10	extremely likely
Write a letter to a relative or a mother, daughter or friend	extremely unlikely	1	2	3	4	5	6	7	8	9	10	extremely likely
Write a local paper to read news	extremely unlikely	1	2	3	4	5	6	7	8	9	10	extremely likely
Read at the public library to find an interesting story that is a book or a book to be read	extremely unlikely	1	2	3	4	5	6	7	8	9	10	extremely likely
Visit the local store where	extremely unlikely	1	2	3	4	5	6	7	8	9	10	extremely likely
Take a trip to the	extremely unlikely	1	2	3	4	5	6	7	8	9	10	extremely likely

The condition you are you have the answer you have given about condition what you really think there would likely be to be a condition.

the condition (you) 1 2 3 4 5 6 7 8 the condition (you)

condition: Please read to see how the material condition of the above population

On following page, there are some choice questions which ask you to tell us how you would prefer to consult one information source over another in a certain choice situation.

• Each choice please imagine that there are only two information sources available in this situation and you are asked to choose only one of them.

• Also consider the costs and effort involved as well as the benefits to be gained in consulting each information source.

• We'd like to present a few examples to explain how to use the response scales given that you were asked to choose between consulting a clothes washer magazine

and consulting an appliance salesperson. If, in the purchase situation you are asked to put yourself in, you would prefer to consult a magazine ad much more than consulting a salesperson (considering all the costs, effort and benefits) then you would circle a high number, say a 5, on the magazine side of the scale like this:

magazine ad ⑤ 4 3 2 1 0 1 2 3 4 5 appliance salesperson

If you would prefer to consult a magazine ad only a little more than consulting a salesperson, then you would circle a low number, say a 1, on the magazine ad side of the scale like this:

magazine ad 5 4 3 2 ① 0 1 2 3 4 5 appliance salesperson

If you would prefer to consult a magazine ad somewhat more than consulting an appliance salesperson (considering all the costs, effort and benefits involved) then you would circle a 3, 3 or 4 depending on how much you prefer to consult a magazine ad.

If on the other hand you would prefer to consult an appliance salesperson more than magazine ad then you would circle a number on the appliance salesperson side of the scale.

For example if you would prefer to consult an appliance salesperson somewhat more than consulting a magazine ad, then you would circle a medium number, say a 3, on the appliance salesperson side of the scale like this:

magazine ad 5 4 3 2 1 0 1 2 ③ 4 5 appliance salesperson

If you are indifferent between consulting the two choices, that is you would prefer to consult them equally, then you would circle 0 in the middle of the scale.

It is realize that these scales are somewhat difficult, so if you have any questions at all please do not hesitate to ask, we will be happy to help you.

I want you to fill in the following characteristics carefully. After you have thought about each item in the direction column under the numbers 1 to 5, you will fill in the circles for each item.

The items listed below are in two sets. The right column are judgments on the good, although you know that none of it is the most types of items and providing answers based on anything will result in almost certain job loss making sense.

You will also give answers for items in the two panels and some other items.

The responses that you have given here have a similar pattern which is about 10 years

old. It is a bit more than 10 years, but that has been left out, leaving you to make

the two items that you have filled in for a new situation.

You will have your time for making the two business purchases.

After reading and thinking about the items a few times, we would like you to indicate your preferences by circling the following choices of information source in any direction.

Please judge each choice by itself. Do not refer to other choices in doing each choice.

Remember: Judge each choice according to how much you would prefer to come to use information source over the other information source in the same situation.

Please indicate all the costs and efforts involved in consulting each source as well as the expected benefits.

consumer ratings of	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221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Instructions

Please read the following description carefully. After you have thought about what is the strongest phrase about the question or if you want to the of better description

You have just moved to a new city. The city seems very different to you, although you know that there will be the usual types of stores and shopping centers found everywhere and need to select stores and items coming about.

The other part will describe how you are in the new people who seem quite friendly.

The feelings that you have moved into this have a clothes center where to spend 10 years old. It will describe in its store and how you have all the things before you would find. You want to see your city to be a new clothes center. You can take your time in finding the replacement clothes.

In each situation please indicate how important would be the achievement of each of the following

to get the purchases made as quickly as possible	somewhat important	1 / 2 / 3 / 4 / 5 / 6 / 7	extremely important
to find out about locally owned appliance stores (their prices, service, credit policies, etc.)	somewhat important	1 / 2 / 3 / 4 / 5 / 6 / 7	extremely important
to learn new things about clothes washers	somewhat important	1 / 2 / 3 / 4 / 5 / 6 / 7	extremely important
to find out what might be wrong or go wrong with any or all of the appliances listed at	somewhat important	1 / 2 / 3 / 4 / 5 / 6 / 7	extremely important
to enjoy the shopping for its own sake	somewhat important	1 / 2 / 3 / 4 / 5 / 6 / 7	extremely important
to obtain the best system technology available in new clothes washers	somewhat important	1 / 2 / 3 / 4 / 5 / 6 / 7	extremely important
to obtain a real sense of personal satisfaction and achievement from personally making the decision	somewhat important	1 / 2 / 3 / 4 / 5 / 6 / 7	extremely important

Please check to make sure that you answered all of the questions in this page. Thank you.

Now you have participated in this role-playing exercise we would like to have your opinion on various aspects concerning the exercise.

Please check one of the boxes beside each statement on the left. Check the one one that best describes how you feel about each statement.

IMPORTANT: Do not hesitate to indicate how you really feel, for one thing, no one can identify your answers since you do not ever give your name. Secondly what we are really interested in is your opinion.

	<i>1 strongly disagree</i>	<i>2 disagree</i>	<i>3 neutral</i>	<i>4 agree</i>	<i>5 strongly agree</i>
The situation was familiar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The situation was realistic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I found it difficult to answer the questions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In truth, I don't think that I would behave in the situation as I indicated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The situation was confusing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I found it easy to put myself into the purchase situation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In the situation described, how much time did you have to make the purchase?

(Please write answer) _____

In the situation described, how familiar were you meant to be with the locally owned appliance stores? (Please check only one box)

very unfamiliar <input type="checkbox"/>	unfamiliar <input type="checkbox"/>	somewhat unfamiliar <input type="checkbox"/>	somewhat familiar <input type="checkbox"/>	familiar <input type="checkbox"/>	very familiar <input type="checkbox"/>
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Please check to make sure you have answered ALL of the questions on this page.

Thank you very much for your participation.

Instructions:

Please rate the following statements carefully. After you have thought about being in the different "stress zones" the questions are if you were in the situation described:

You have just moved to a new city. The stress affects you different to you, although you know that there will be new good things of success and amazing success. You're nervous and find it hard to move because you have nothing about.

You miss your old friends but have met a few new people who seem quite friendly.

You sometimes think you have moved to some new thing & it seems easier but there is no "something" that is something for you to do.

You want to purchase a new vehicle, which they want, in the next day or two of the week.

After reading and thinking about the above situation, please fill in the table your preferences to indicate the following choices of statements given to you [\(optional\)](#).

Please judge each choice to be good? Is not better to other choices in making your choice.

However, your own choice according to how much you would prefer to indicate any information given over the other information given in the [questionnaire](#).

Please consider all the costs and effort involved in completing each choice as well as the expected benefits.

nothing	1	2	3	4	5	6	7	8	9	10	Strong or relative
app focus satisfaction	1	2	3	4	5	6	7	8	9	10	Consumer Reports article
structural satisfaction	1	2	3	4	5	6	7	8	9	10	Structural and health
structure and health	1	2	3	4	5	6	7	8	9	10	Friend or relative
nothing	1	2	3	4	5	6	7	8	9	10	app focus satisfaction
structure and health	1	2	3	4	5	6	7	8	9	10	Consumer Reports article
nothing	1	2	3	4	5	6	7	8	9	10	Consumer Reports article
structure and health	1	2	3	4	5	6	7	8	9	10	Structure and health
nothing	1	2	3	4	5	6	7	8	9	10	Consumer Reports article
structure and health	1	2	3	4	5	6	7	8	9	10	Structure and health
nothing	1	2	3	4	5	6	7	8	9	10	Friend or relative
nothing	1	2	3	4	5	6	7	8	9	10	app focus satisfaction
nothing	1	2	3	4	5	6	7	8	9	10	Consumer Reports article
nothing	1	2	3	4	5	6	7	8	9	10	Friend or relative
nothing	1	2	3	4	5	6	7	8	9	10	app focus satisfaction
nothing	1	2	3	4	5	6	7	8	9	10	Structure and health
nothing	1	2	3	4	5	6	7	8	9	10	app focus satisfaction
nothing	1	2	3	4	5	6	7	8	9	10	nothing
nothing	1	2	3	4	5	6	7	8	9	10	app focus satisfaction
nothing	1	2	3	4	5	6	7	8	9	10	Consumer Reports article
nothing	1	2	3	4	5	6	7	8	9	10	app focus satisfaction

The following (very) dry job that the others you have given some details and your preferences might be to give all other:

not as well
 confirmed (good) 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10
 confirmed (good)

(Optional) Please check or make sure that you agree to [all](#) of the above questions

APPENDIX B

SCENARIO EXPERIMENT, INDIVIDUAL DIFFERENCE MEASURES

Please answer the questions over the next two pages that will tell us some things about you. Please remember your answers are confidential and that we can at no stage identify you by name so we at no time ask you to give us that information.

We do to help us all understand how to go about answering the questions. I suggest that we all go through each page at a time. So lets start by turning to the next page

1. How many new clothes makers have you, yourself, ever purchased at a retail store?

2. Compared with other consumers, how would you rate your knowledge of clothes makers? (Please check one box)

- No knowledge ☐ +
- Low knowledge ☐ +
- Moderate knowledge ☐ +
- High knowledge ☐ +
- Very high knowledge ☐ +
- Extremely high knowledge ☐ +

3. Some people think that when you buy a major appliance whether or not you end up with a good choice is largely a matter of luck. Other people think that whether or not you end up with a good choice is largely a matter of buying skill. Which do you think ending up with a good choice is mostly due to:

		50/50															
mostly																	mostly
luck	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	buying skill

4. Please think about the differences between clothes makers on the choice factors that you think are important (for example, price, durability, operating costs, quality, features). Which of the following statements do you most agree with (check one box).

- There is no difference between the brands ☐ +
- There are some slight differences between the brands ☐ +
- There are differences between the brands ☐ +
- There are big differences between the brands ☐ +

5. Do you currently have a subscription to the Consumer Reports magazine?

Yes ☐ No ☐

6. Please describe your education _____

7. Please indicate your age
(check only one box)

Under 15 ☐

15-19 ☐

20-24 ☐

25-29 ☐

30-34 ☐

35-39 ☐

40-44 ☐

45-49 ☐

50-54 ☐

55-59 ☐

60 + ☐

8. How long have you lived in the same/the area? _____ years (if less than 1 write 0)

9. Please check the box which applies

I am a homemaker/housewife

☐

I am a homemaker/housewife

but I also have a paid job ☐

If you do have a paid job (employment) how many hours a week do you work

_____ hours

10. What was the last grade in school that you actually completed (please circle one)
year

Elementary 1 2 3 4 5 6 7 8

High School 1 2 3 4

College 1 2 3 4 5+

No schooling 0

11. Please indicate which category your family (household's) income falls in:

under \$7,000 \$7,000 - \$9,999 \$10,000 - \$14,999 \$15,000 - \$19,999 \$20,000+

☐
☐
☐
☐
☐

(If you consider this question improper please do not answer it)

APPENDIX C

SILVERADO ELEMENTARY GROUP SESSIONS

<u>Subjects</u>	<u>Date</u>	<u>Subjects</u>
Women recruited by the McLaurin School PTA	January 8, 1979	Group 1 : 18 Group 2 : 15
Women recruited by the Lafayette School PTA	January 15, 1979	Group 3 : 18 Group 4 : 20
Members of the Holy Ghost Church Women's Club	January 16, 1979	Group 5 : 18
Adult Education Class	January 22, 1979	Group 6 : 18
Women recruited by the A.J. Pinchey PTA	January 25, 1979	Group 7 : 18
Women recruited by the Oak State School Band Leaders	January 30, 1979	Group 8 : 18 Group 9 : 8
Women recruited by the St. Peter School PTA	February 15, 1979	Group 10 : 18 Group 11 : 12
	Total	<u>176</u>

APPENDIX F

INFORMATION PROCESSING EXPERIMENT: FILLING TREATMENT

Welcome to this research study. It involves asking you to give your opinions about matters relating to home appliances, in particular refrigerators and washing machines.

A number of different 'little tasks' are involved so I hope you won't mind it if we seem to be passing out and collecting back from you a number of different pages with questions on them.

At the very start I would like to emphasize that we are seeking to know what your own opinions are. There are no so-called 'right' or 'wrong' answers. So please do not be nervous or apprehensive and feel that you are about to take some sort of test or exam. This just is not so.

We will offer as much help as we can to explain how you go about answering the questions. I will explain at the start of the different 'little tasks' and if you still don't quite understand please raise your hand and I or my assistant will be happy to help you.

Finally I would like to say how much I appreciate your participation. I hope you will enjoy participating. Please turn over the page and start.



Peter Pickson

Research Supervisor

Writing Treatment

I would like you to think about the consequences of the sudden failure of a household refrigerator.

What would happen and what would you do if your refrigerator suddenly failed?

Maybe this has happened to you in the past and you can recall what happened. Perhaps you can recall a friend's experience. If you can not please try to imagine the situation for a few minutes and then answer the following questions.

What do you think would happen if your refrigerator suddenly failed?

What would you do about it?

If your refrigerator suddenly failed which of the following results would worry you? (Please check as many as you like)

Having to throw away food

Having to ask a neighbor for help

Having to get help of a neighbor

Having a stranger in the house

Having to pay the costs of repairs

Having to get the manufacturer or retailer to take some responsibility

Having to clean the refrigerator
because food went bad

[illegible]

I would like you to think about all the small and large electrical appliances that you have in your household (including radios/TV's and phones). Please list as many of them as you can below:

[illegible]

APPENDIX Q

INFORMATION PROCESSING EXPERIMENT INFORMATION TYPE AND BEHAVIOUR CONSEQUENCES TREATMENT

Instructions to Subjects

Please read the Report on the next page. This Report describes the breakdown rate of a particular brand of refrigerator. Because we do not give information about other brands we do not identify the particular brand concerned. It is just called Brand X. This Report is part of a more general study being undertaken of home appliances which will be made public in the near future.

We would like to find out how you feel about the Report and what it has to say.

For this reason we ask you to read the Report very carefully (do not skip read) and after you have finished reading the Report please turn to the following page and answer the questions.

Do not worry if you are not sure how to go about answering the questions as we will explain how to go about answering them.



Center for Consumer Research

University of Florida

Joel B. Cohen, Ph.D.
Dean

Brand X Refrigerator Report

Based on interviews with a sample of 500 ordinary households, the following information was obtained in response to the question:

"Did your Brand X refrigerator breakdown (fail) at any time before it was 5 years old?"

Three hundred and ninety-five of the households reported that their Brand X refrigerator did not breakdown (fail) at any time before the refrigerator was 5 years old. That meant seventy nine percent of the appliances did not breakdown in their first 5 years of use.

One hundred and five of the households reported that their Brand X refrigerator did breakdown (fail) at some time before the refrigerator was 5 years old. That meant twenty one percent of the appliances did breakdown in their first 5 years of use and had to be replaced.



Center for Consumer Research

University of Florida

Jon B. Cohen, Jr.
2000

Bread & Refrigerator Issues

Based on interviews with a sample of 8 millitary housewives, the following actual quotes are presented in response to the question--

"Did your bread & refrigerator break down (fail) at any time before it was 3 years old?"

- | | |
|-------------------|---|
| Housewife Melissa | "No, I can't say that we had any such trouble as the bread & parts of the refrigerator." |
| Housewife Nancy | "No problem. It has worked fine." |
| Housewife Ann | "Well, the first 3 years that you say? No, it didn't break down at any time." |
| Housewife Susan | "Yes, the refrigerator did break down. It stopped working and we had to get it repaired." |
| Housewife Mary | "Well, we bought it in '88 and it hasn't broken down yet." |



Center for Consumer Research

University of Florida

Jeffrey Cohen, Ph.D.
Chair

Brand X Refrigerator Report

Based on interviews with a sample of 300 ordinary households, the following information was obtained in response to the question:

"Did your Brand X refrigerator breakdown (fail) at any time before it was 8 years old?"

Three hundred and ninety-five of the households reported that their Brand X refrigerator did not breakdown (fail) at any time before the refrigerator was 8 years old. That meant seventy nine percent of the appliances did not breakdown in their first 8 years of use.

One hundred and five of the households reported that their Brand X refrigerator did breakdown (fail) at some time before the refrigerator was 8 years old. That meant twenty one percent of the appliances did breakdown in their first 8 years of use and had to be repaired. The households whose appliances had failed indicated that generally such a large clean up job resulted from the failure. An average food waste amounted to \$20. The average repair cost was \$45.

The number of phone calls made to get a technician to come averaged three. The total time of the households that was wasted by the breakdown amounted to an average of about 3-4 hours (including time waiting for repairs to come).

The majority of the household's reactions to the event at the time were that they wished it had not happened and they rated they were very annoyed (on a scale going from somewhat annoyed to extremely annoyed).

Report Evaluation Questions

Please indicate which of the following pairs of terms best describes the report. (The supervisor will explain how to answer.)

The report was

uninteresting 1 / 2 / 3 / 4 / 5 / 6 / 7

interesting

believable 1 / 2 / 3 / 4 / 5 / 6 / 7

unbelievable

easy to understand 1 / 2 / 3 / 4 / 5 / 6 / 7

hard to understand

hard to read 1 / 2 / 3 / 4 / 5 / 6 / 7

easy to read

APPENDIX 1
INFORMATION PROCESSING EXPERIMENT
MEASUREMENT INSTRUMENT

In the next two pages are some questions about the brand B refrigerator you have just read about.

Please use only the information you remember from the report to answer the questions.

When you have finished please wait further instructions.

1. If you had bought a Brand X refrigerator how likely is it that it would have broken down during its first 5 years of use?

50/50
chance

extremely unlikely 1 / 2 / 3 / 4 / 5 / 6 / 7 extremely likely

How confident are you about the likelihood rating that you just gave?

not at all very
confident (sure) 1 / 2 / 3 / 4 / 5 confident (sure)

2. Out of twenty Brand X refrigerators, how many of them do you think would breakdown (fail) at some time before they were 5 years old?

How many do you think? _____

How confident are you of the number you just wrote down?

not at all very
confident (sure) 1 / 2 / 3 / 4 / 5 confident (sure)

3. In your opinion how reliable are Brand X refrigerators?

extremely unreliable 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 11 extremely reliable

How confident are you of the above reliability rating that you gave Brand X?

not at all very
confident (sure) 1 / 2 / 3 / 4 / 5 confident (sure)

4. In your opinion how durable are Brand X refrigerators?

not at all durable 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 11 extremely durable

How confident are you of the above durability rating that you gave Brand X?

not at all very
confident (sure) 1 / 2 / 3 / 4 / 5 confident (sure)

Please check to make sure you have answered all of the above questions.
If you are not sure how you should go about answering them please have
your hand out as well as happy to help.

[X] This page was administered to subjects in the consequences described condition)

- a) As you remember it, how many households were interviewed in the study? _____
- b) As you remember it, how many households reported their brand 1 refrigerator failed? _____
- c) As you remember it, how much did it cost to repair a failed brand 1 refrigerator? _____
- d) As you remember it, how much worth of food had to be thrown out when a brand 1 refrigerator failed? _____
- e) As you remember it, how many calls had to be made to get a repairman to come when a brand 1 refrigerator failed? _____
- f) How would you rate the seriousness of the consequences of the breakdown of a brand 1 refrigerator (please check only one box)?
- Not at all serious ☐ Slightly serious ☐ Serious ☐ Very serious ☐ Extremely serious ☐

Please indicate which of each of the following pairs of terms best describes the report* (please circle only one number between each pair of terms)

The report was:

- First hand information 1 / 2 / 3 / 4 / 5 / 6 / 7 second hand information
- well 1 / 2 / 3 / 4 / 5 / 6 / 7 vivid
- representative 1 / 2 / 3 / 4 / 5 / 6 / 7 unrepresentative
- personal 1 / 2 / 3 / 4 / 5 / 6 / 7 impersonal
- vague 1 / 2 / 3 / 4 / 5 / 6 / 7 specific

Please indicate how much you agree/disagree with the following statements (please check only one box for each question)

The information in the Report was easy to remember

- Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree ☐

Enough information was provided to make a judgement about the brand

- ☐ ☐ ☐ ☐ ☐ ☐ ☐

The Report would have been better if more owners had been talked to

- ☐ ☐ ☐ ☐ ☐ ☐ ☐

Please check to make sure you have answered all 14 of the above questions
If you are not sure how you should go about answering them please leave your sheet out or mail to happy to help

(B.6. This page was administered to subjects exposed to the basic report.)

a) As you remember it, how many houses were interviewed in the study? _____

b) As you remember it, how many houses reported their dead? _____
refrigerator failed?

Please indicate which of each of the following pairs of terms best describes the report. (Please circle only one number between pair pair of terms.)

The report was

first hand information 1 / 2 / 3 / 4 / 5 / 6 / 7 second hand information

well 1 / 2 / 3 / 4 / 5 / 6 / 7 vivid

representative 1 / 2 / 3 / 4 / 5 / 6 / 7 unrepresentative

personal 1 / 2 / 3 / 4 / 5 / 6 / 7 impersonal

vague 1 / 2 / 3 / 4 / 5 / 6 / 7 specific

Please indicate how much you agree/disagree with the following statements (Please check only one box for each question.)

thought
to be
reliable
 thought
to be
reliable
 thought
to be
reliable
 thought
to be
reliable
 thought
to be
reliable
 thought
to be
reliable
 thought
to be
reliable

The information in the report
was easy to remember

☐ ☐ ☐ ☐ ☐ ☐ ☐

Enough information was provided to
make a judgment about the house

☐ ☐ ☐ ☐ ☐ ☐ ☐

The report would have been better
if more houses had been talked to

☐ ☐ ☐ ☐ ☐ ☐ ☐

Please check to make sure you have answered all of the above questions.
If you are not sure how you should go about answering them, please contact
your local and we will be happy to help.

BIOGRAPHICAL SKETCH

Peter Reid Jackson was born on April 14, 1946 in Otago, a small country town in the South Island of New Zealand. He was educated at "Birkbeck Boys" High School and the University of Otago where he graduated B.Sc. in mathematics and statistics (1966-69), B.Com. in marketing and management (1969-71) and B.Com.(Hons) in marketing (1972). His Honours dissertation was a study of attitudes toward the media and advertising in the media and was funded by the New Zealand Broadcasting Council. He was awarded the prize for the best graduating senior in marketing in 1971 and received a First Class Honours degree. While studying he worked as a sports journalist for a daily and a weekly newspaper, edited the student newspaper "Critic", was employed as a tutor to teach statistics, business computing and marketing and held various student government positions including student representative on the University of Otago Board of Regents.

He was employed as a lecturer and senior lecturer at the University of Otago from 1973-1978 where he taught business computing, business mathematics and marketing. Dr. Jackson was awarded a Fulbright-Hays International scholarship to undertake his PhD at the University of Florida. He left and passed his qualifying examinations in June 1979 and returned to New Zealand in early 1979 to resume his teaching at the University of Otago. While at Florida he was awarded an American Marketing Association Doctoral Research Grant and was a 1977 American Marketing Association Doctoral Consortium Fellow. He has had extensive consulting experience in New Zealand and is now an Assistant Professor at the Ohio State University. He has had several papers published in conference proceedings and academic journals.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


WILLIAM L. GRIFFIN, Chairman and
Professor of Marketing

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


JOHN S. CALKINS
Professor of Marketing

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


LAWRENCE J. LOVETT
Associate Professor of Psychology

This dissertation was submitted to the Graduate Faculty of the Department of Marketing in the College of Business Administration and to the Graduate Council, and was accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August, 1981

Dean for Graduate Studies and Research